Service Manual

(T1)

LG Electronics

Contents

Chapter 1. Service information

1-1. Important service information

■ Strategy for replacing parts (FRU-Field Replaceable Units)

Before replacing parts

Make sure that latest BIOS and drivers are installed before replacing any parts (FRUs) listed in this

Use the following strategy to prevent unnecessary expense for replacing and servicing parts

1. If you are instructed to replacing a part but the replacement does not correct the problem, reinstall the original part before you continue.
2. Some computers have both a processor board and system board. If you are instructed to replace either the processor board or the system board, and replacing one of them does not correct the problem, reinstall that board, and then replace the other one.
3. If an adapter or device consists of more than one part, any of the parts (FRUs) may be the cause of the error. Before replacing the adapter or device, remove the parts (FRUs), one by one, to see if the symptoms change. Replace only the part that changed the symptoms.

Caution

The BIOS configuration on the computer you are servicing may have been customized. Running Automatic Configuration my alter the settings. Note the current configuration settings; then, when service has been completed, verify that those settings remain in effect.

■ Strategy for replacing a hard-disk drive

You have to get a User's approval before formatting or replacing a hard-disk drive. You must let the User know that the user is responsible for the loss data

Caution

The drive startup sequence in the computer you are servicing may have been changed. Be extremely careful during write operations such as copying, saving, or formatting. If you select an incorrect drive, data or programs can be overwritten.

1-2. Safety notices

Warning

Before the computer is powered-on after part (FRU) replacement, make sure all screws, springs, and other small parts are in place and are not left loose inside the computer. Verify this by shaking the computer and listening for rattling sounds. Metallic parts or metal flakes can cause electrical shorts.

Warning

some standby batteries contain a small amount of nickel and cadmium. Do not disassemble a standby battery, recharge it, throw it into fire or water, or short-circuit it. Dispose of the battery as required by local ordinances or regulations. Use only the battery in the appropriate parts listing. Use of an incorrect battery can result in ignition or explosion of the battery

Warning

The battery pack contains small amounts of nickel. Do not disassemble it, throw it into fire or water, or short-circuit it. Dispose of the battery pack as required by local ordinances or regulations. Use only the battery in the appropriate parts listing when replacing the battery pack. Use of an incorrect battery can result in ignition or explosion of the battery.

Warning

If the LCD breaks and the fluid from inside the LCD gets into your eyes or on your hands, immediately was the affected areas with water for at least 15 minutes. Seek medical care if any symptoms from the fluid are present after washing.

Warning

To avoid shock, do not remove the plastic cover that protects the lower part of the inverter card.

Warning

Though the main batteries have low voltage, a shorted or grounded battery can produce enough current to burn personnel or combustible materials.

Warning

Before removing any part (FRU), turn off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any interconnecting cables.

1-3. Safety information

■ General safety

Follow these rules to ensure general safety

· Observe good housekeeping in the area of the machines during and after maintenance.

· When lifting any heavy object

1. Ensure you can stand safely without slipping.
2. Distribute the weight of the object equally between your feet.
3. Use a slow lifting force. Never move suddenly or twist when you attempt to lift.
4. Lift by standing or by pushing up with your leg muscles
   (This action removes the strain from the muscles in your back.)

· Do not attempt to lift any object weights more then 16kg(35lb) or object that you think are too heavy for you.

· Do not perform any action that causes hazards to the customer, or that makes the equipment unsafe.

· Before you start the machine, ensure that other service representatives and the customer’s personnel are not in a hazardous position.

· Place removed covers and other parts in a safe place, away from all personnel, while you are servicing the machine.

· Keep your tool box away from walk areas so that other people will not trip over it.

· Do not wear loose clothing that can be trapped in the moving parts of a machine. Make sure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.

· Insert the ends of your necktie or scarf inside clothing or fasten it with a nonconductive clip, approximately 8 centimeters(3 inches) from the end.

· Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for you clothing.

· Wear safety glasses when you are hammering, drilling, soldering, cutting wire, attaching springs, using solvents, or working in any other conditions that might be hazardous to your eyes.

· After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.

· Reinstall all covers correctly before returning the machine to the customer.

Caution
Metal objects are good electrical conductors.

■ Electrical safety

Observe the following rules when working on electrical equipment.

> **Important**
> Use only approved tools and test equipment. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.
> Many customers have, near their equipment, rubber floor mats that contain small conductive fibers to decrease electrostatic discharges. Do not use this type of mat to protect yourself from electrical shock.

· Find the room emergency power-off switch, disconnecting switch, or electrical outlet. If an electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.

· Do not work alone under hazardous conditions or near equipment that has hazardous voltages.

· Disconnect all power before

1. Performing a mechanical inspection
2. Working near power supplies
3. Removing or installing main units

· Before you start to work on the machine, unplug the power cord. If you cannot unplug it, ask the customer to power-off the wall box that supplies power to the machine and to lock the wall box in the off position.

· If you need to work on a machine that has exposed electrical circuits, observe the following precautions : Ensure that another person, familiar with the power-off controls, is near you.

> **Caution**
> Another person must be there to switch off the power, if necessary.

· Use only one hand when working with powered-on electrical equipment. Keep the other hand in your pocket or behind your back

> **Caution**
> An electrical shock can occur only when there is a complete circuit. By observing the above rule, you may prevent a current from through your body.

· When using testers, set the controls correctly and use the approved probe leads and accessories for that tester

· Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames.

· Observe the special safety precautions when you work with very high voltages. These instructions are in the safety sections of maintenance information. Use extreme care when measuring high voltages.

· Regularly inspect and maintain your electrical hand tools for safe operational condition.

· Do not use worn or broken tools and testers.

· Never assume that power has been disconnected from a circuit. First check that it has been powered off.

· Always look carefully for possible hazards in your work area. Examples of these hazards are moist floors, non-grounded power extension cables, power surges, and missing safety grounds.

· Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive such touching can cause personal injury and machine damage.

· Do not service the following parts with the power on when they are removed from their normal operating places in a machine.

1. Power supply units
2. Pumps
3. Blowers and fans
4. Motorgenerators

   and similar units. (This practice ensure correct grounding of the units.)

· If an electrical accident occurs

1. Use caution ; do not become a victim of yourself.
2. Switch off power.
3. Send another person to get medical aid.

■ Safety inspection guide

The purpose of this inspection guide is to assist you in identifying potentially unsafe conditions.
As each machine was designed and built, required safety items were installed to protect users and service personnel from injury. This guide addresses only those items. You should use good judgment to identify potential safety hazards due to attachment of non-LG features or options not covered by this inspection guide.
If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem.

· Consider these conditions and the safety hazards they present

1. Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock)
2. Mechanical hazards, such as loose or missing hardware

Refer to the following checklist and begin the checks with the power off, and the power cord disconnected.

· Checklist

1. Check exterior covers for damage (loose, broken, or sharp edges)
2. Power off the computer. Disconnect the power cord.
3. Check the power cord for :
   a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 Ω or less between the external ground pin and frame ground.
   b. The power cord should be the type specified in the parts list.
   c. Insulation must not be frayed or worn.
4. Remove the cover.
5. Check for any obvious non-LG alterations. Use good judgment as to the safety of any non-LG alterations.
6. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
7. Check for worn, frayed, or pinched cables.
8. Check that the power-supply cover fasteners (screw or rivets) have not been removed or tampered with.

■ Handling devices that are sensitive to electrostatic discharge

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

> **Note**
> Use product-specific ESD procedures when they exceed the requirements noted here.
> Make sure that the ESD protective devices you use have been certified (ISO9000) as fully effective.

· When handling ESD-sensitive parts :

1. Keep the parts in protective packages until they are inserted into the product.
2. Wear a grounded wrist strap against your skin to eliminate static on your body.
3. Prevent the part from touching your clothing. Most clothing retains a charge even when you are wearing a wrist strap.
4. Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
5. Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

> **Note**
> The use of a grounding system is desirable but not required to protect against ESD damage.

a. Attach the ESD ground clip too any frame ground, ground braid, or green-wire ground.
b. Use an ESD ground or reference point when working on a double-insulated or battery-operated system. You can use coax or connector-outside shells on these systems.
c. Use the round ground-prong of the AC plug on AC-operated computers.

■ Grounding requirements

Electrical grounding of the computers is required for operator safety and correct system function.
Proper grounding of the electrical outlet can be verified by a certified electrician.

1-4. Laser compliance statement

When a CD-ROM drive, DVD drive or the other laser product is installed, note the following :

Caution

Use of controls or adjustments or performance of procedures other than those specified here in might result in hazardous radiation exposure.

Opening the CD-ROM drive, DVD-ROM drive or the other optical storage device could result in exposure to hazardous laser radiation.

There are no serviceable parts inside those drives. Do not open

Danger

Emits visible and invisible laser radiation when open. Do not stare into the beam , do not view directly with optical instruments, and avoid direct exposure to the bean.

1-5. Backup (Standby) RTC battery safety information

When replacing or disposing of the backup (standby) RTC battery, note the following :

Caution

There is the risk of explosion if the backup (standby) RTC battery is replaced by an incorrect type.

Dispose of used backup (standby) RTC battery according to your local ordinances or regulation.

Для замены, используйте соответствующий тип батареек.

Существует опасность воспламенения.

Удаляйте отработанные батарейки согласно местным правилам или нормам.

Неправильное удаление батареек может привести к их взрыву или пожару.

باطری ذخیره (یدکی)را با نوع درست آن عوض کنید.

خطر انفجار وجود دارد.

باطری های ذخیره (یدکی) استفاده شده را براساس دستورالعمل داخلی مصرف کنید.

مصرف باطریهای نادرست منجر به انفجار یا آتش سوزی میشود.

غير البطارية البديلة على الطراز المناسب.

وهناك احتمال الانفجار.

تخلص من البطاريات البديلة المستعملة حسب القوانين والانظمة المحلية.

البطاريات المتخلص منها بصورة غير مناسبة قد تؤدي الى انفجار او احتراق.

1-6. Read this first

Before you go to the checkout guide, be sure to read this section.

Important Notes

· Only trained personnel certified by LG should service the computer.
· Read the entire FRU removal and replacement page before replacing any FRU.
· Use new nylon-coated screws when you replace FRUs.
· Be extremely careful during such write operations as copying, saving, formatting.
Drives in the computer that you are servicing sequence might have been altered. If you selected an incorrect drive, data or programs might be overwritten.
· Replace FRUs only for the correct mode.
· When you replace a FRU, make sure the model of the machine and the FRU part number are correct by referring to the FRU parts list.
· A FRU should not be replaced because of a single, irreproducible failure. Single failures can occur for a variety of reasons that have nothing to do with a hard ware defect, such as cosmic radiation, electrostatic discharge, or software errors.
· Consider replacing a FRU only when a problem recurs. If you suspect that a FRU is defective, clear the error log and run the test again. If the error does not recur, do not replace the FRU.
· Be careful not to replace a non-defective FRU.

■ What to do first

You must fill out the record form first.
During the warranty period, the customer may be responsible for repair costs if the computer damage was caused by misuse, accident, modification, unsuitable physical or operating environment, or improper maintenance by the customer. The following list provides some common items that are not covered under warranty and some symptoms that might indicate that the system was subjected to stress beyond normal use. Before checking problems with computer, determine whether the damage is covered under the warranty by referring to the following :

The followings are not covered under warranty :

· CD panel cracked from the application of excessive force or from being dropped
· Scratched (cosmetic) parts
· Distortion, deformation, or discoloration of the cosmetic parts
· Cracked or broken plastic parts, broken latches, broken pins, or broken connectors caused by excessive force
· Damage caused by liquid spilled into system
· Damage caused by improper insertion of a PC Card or the installation of an incompatible card
· Damage caused foreign material in the diskette drive
· Diskette drive damage caused by pressure on the diskette drive cover or by the insertion of a diskette with multiple labels
· Damaged or bent diskette eject button
· Fusses blown by attachment of a non-supported device
· Forgotten computer password (making the computer unusable)
· Sticky keys caused by spilling a liquid onto the keyboard

The following symptoms might indicate damage caused by non-warranted activities :

· Missing parts might be a symptom of unauthorized service or modification.
· If the spindle of a hard-disk drive becomes noisy, it may have been subjected to excessive force, or dropped.

Chapter 2. Locations

■ Front view



1. Wireless LAN/Bluetooth antenna

※ Mini Express Wireless LAN Card and Bluetooth equipment are optional.

2. LCD Monitor
3. Keyboard
4. Touch pad
5. Touch pad button
6. Built-in Microphone
7. Stereo Speaker
8. 5-in-1 Card slot (xD / SD / MMC / Memory stick / Memory stick Pro)
9. Authentic Fingerprint scanner

※ Authentic Fingerprint device is optional.

10. Direct Media Button

- Click Direct Media button to start media program selected from control panel. LG Direct Media function is available while the system is off, in standby mode, or in hibernation mode. (Power DVD is set to factory default settings.)

11. Volume down button
12. Volume up button
13. SRS button

- SRS is not performed by default and press SRS button to use this function and set SRS WOWXT , SRS TrueSurroundXT. SRS TruSurroundXT generates 5.1 Channel digital surround sound from 2 channels of sound and SRS WOWXT give field effect to 2 channels of sound.

14. Power button

■ Rear view



1. Security keyhole
2. S-Video Connector

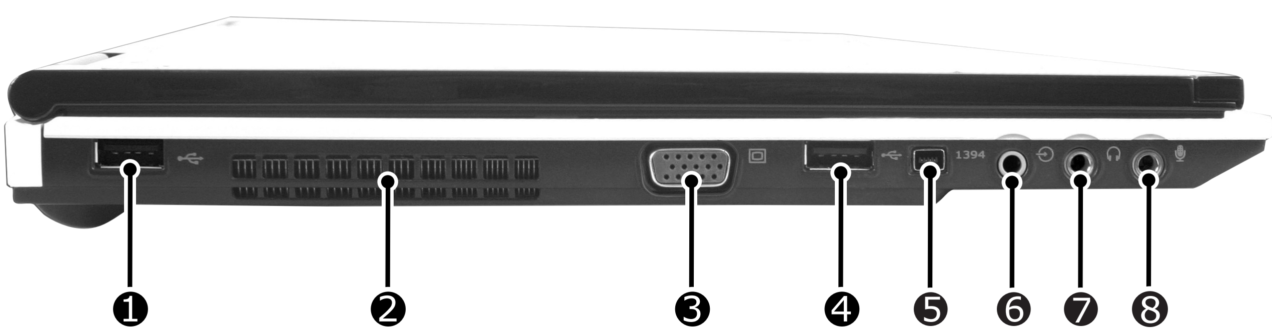
※ It is compatible with 4pin S-Video Cable.

3. Modem connector

※ Specifications may be different depending on the model.

4. LAN Connector
5. Power connector

■ Left view



1. USB Connector
2. Fan louvers
3. VGA Connector
4. USB Connector
5. IEEE 1394 Connector
6. Line-in / S/PDIF Connector
7. Headphone connector
8. Microphone connector

■ Right view



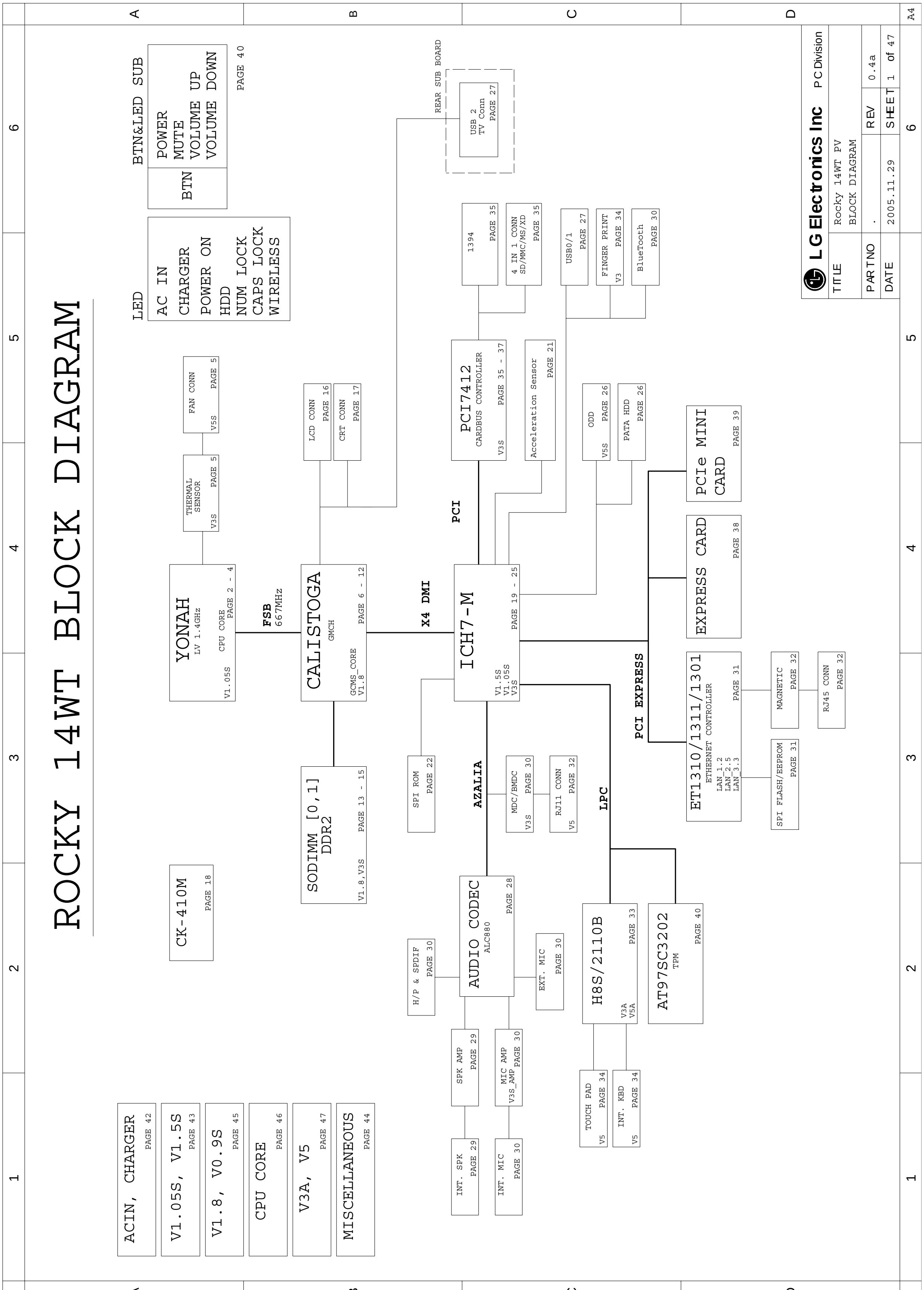
1. Express Card slot
2. Optical Disk Drive
3. Disk tray button
4. Emergency eject hole
5. USB Connector

Chapter 3. System information

■ Specification

- CPU
  - · Yonah 1.66 ~ 2.16 GHz
  - · μFCPGA
- Main Chipset & Graphic
  - · Intel 945GM, ICH7-M
  - · Intel 945PM, ICH7-M, nVidia Geforce GO7300/7400/7600, VRAM 64MB/128MB/256MB
- Memory
  - · 2 SODIMM
  - · DDR2 PC2-4200S/5300S Capable(533MHz/667MHz)
- LCD
  - · XGA 185nit/SXGA+ 200nit
- HDD
  - · 2.5" 9.5mm 80/100GB SATA/PATA Type
- Communication
  - · Modem, Daughter Card Type
  - · Agere Gigabit Ethernet controller On Board
  - · Bluetooth 2.0
- Wireless LAN Solution
  - · 802.11 bg/abg Mini PCI-E Type, Hexa-band Antenna
- Card Slot
  - · Express Card Slot/Cardbus Card Slot(PCMCIA)
  - · 5-in-1 Card Slot(Memory Stick, Memory Stick Pro, MultiMediaCard, SD Card, xD Picture Card)
- ODD
  - · Fixed Optical Storage
  - · DVD-Combo/DVD Super multi
- Port
  - · VGA, 3X USB(2.0), RJ11, RJ45, Headphone-out/SPDIF, Mic-in, Line-in, AC-in, IEEE1394, S-Video
- Input Devices
  - · Keyboard:86Key Keyboard
  - · Touchpad
  - · Fingerprint (option)
- Buttons
  - · Power, Volume Down, Volume Up, SRS
- Indicator (LED)
  - · AC-in, Power On, Charge, HDD, Caps Lock, Num Lock, Wireless
- Power
  - · 90 Watt 19V 4.74A Adapter
- Audio
  - · Realtek Azalia Audio Codec, Stereo Speakers each 1W
- Battery
  - · 6 Cell 5.2AHr, CYLINDRICAL(Li-Ion)

■ System Block Diagram



■ Fn key combinations

The following table shows the function of each combination of Fn with a function key.

Function of Fn keys has nothing to do with Operating System.

[Fn]+[Esc]	CD/DVD eject hot key
[Fn]+[F1]	User defined Hot key (Setting is available at OSD)
[Fn]+[F2]	User setting available in OSD. (By default, this combination is for Zoom In/Out. ※ Zoom In/Out entails automatic adjustment of resolution.)
[Fn]+[F3]	User setting available in OSD. (By default, this combination is for XTS Pro On/Off. ※ XTS Pro On/Off is a new technology that realizes the optimal sound quality in playing the original sound as it is by adjusting frequency attributes in the signal processing part that governs speaker operation without physical alteration of speakers.)
[Fn]+[F4]	Force the computer to enter power-saving mode. (ex: system standby or hibernation)
[Fn]+[F5]	Press the combination [Fn]+[F5] keys to select or deselect Touchpad Disabled. In Touchpad Auto-disable mode, Touchpad becomes disabled automatically if USB or PS2 mouse is connected.Press again to change touchpad modes.
[Fn]+[F6]	Wireless LAN, Bluetooth On/Off User setting available in OSD. The default is set to Wireless LAN, Bluetooth On / Off.
[Fn]+[F7]	Monitor change. This combination is for monitor selection among LCD only, External Monitor only, and LCD & External Monitor.
[Fn]+[F8]	Power scheme change (Refer to the Battery Miser help menu)
[Fn]+[F9]	Mute(Sound On / Off)
[Fn]+[F10]	System information. This combination shows system information in brief.
[Fn]+[F11]	Fan control function. CPU Cooling Fan control mode (Normal / Silent (for quiet operation) / Cool (for fast spinning))
[Fn]+[F12]	Maximum power-saving mode (When OSD is installed).
[Fn]+[ScrLK]	It functions as Num Lock Key.
[Fn]+[Home]	Brighten the LCD Nine steps are available.
[Fn]+[End]	Darken the LCD Nine steps are available.
[Fn]+[Delete]	It functions as Insert Key.

■ Status indicators

The system status indicators show the status of the computer



1. AC adapter indicator
2. Power indicator
- Power indicator lights up when the power cord is connected to the computer.
- OFF : Power is off, or it is entered system hibernation mode
- Orange : Notebook PC is turned on
- Blinking: Stand by mode

3. Battery status indicator: Charging the battery
- Battery status indicator indicates the computer is connected to an AC adaptor and is being charged. Indicator is off when the battery is fully charged OR the computer is not connected to an AC Adapter.
- When the battery is being charged (with AC adapter connected to the computer): On
- When the battery is fully charged: OFF
- When the computer is not connected to an AC Adapter: OFF
- When the battery power is under 10% of its maximum capacity: Blinking
- The battery is defective: Blinking

※ The Battery indicator blinks as you have set the alarm action from the Battery miser 2005.

4. Hard disk drive indicator
- Indicator lights up when the Notebook PC access to the hard disk drive.

※ Do not turn off the computer when the drive indicator lights up. It may cause data loss to the computer.

5. Scr LK(Num LK) indicator

- By pressing [Fn]+[Scr LK(Num Lk)] keys, you can enable the embedded numeric keypad. By pressing [Scr LK(Num Lk)] keys again, [Scr LK(Num Lk)]indicator is disabled, and text input is enabled.(According to the OSD keyboard/touchpad setting, if an external keyboard is connected to your Notebook PC, the internal number keypad and the status indicator are disabled.))

6. Caps Lock Indicator

- Caps Lock indicator lights up when Caps Lock key is pressed. When this indicator lights up, you can type capital letters without pressing the Shift key.

7. Wireless LAN/Bluetooth indicator

※ Wireless LAN/Bluetooth Indicator may differently lights up depending on the model.

- OFF : Wireless LAN/Bluetooth function not in use.
- Blinking: Wireless LAN/Bluetooth in connection with data transfer.
- Blinking(2 to 3 seconds): Wireless LAN/Bluetooth not in connection with Wireless Radio on.
- Blinking(3 to 4 seconds): Searching for access points to establish Wireless LAN/Bluetooth connection.
- ON : Searching for access points to establish Wireless LAN/Bluetooth connection, or already in connection.

■ BIOS Flash

You can update BIOS using a floppy disk drive.
Because this system is not equipped with any floppy disk drive, you have to use an external USB drive for a BIOS update. In order to boot up with an USB drive, please set Removable Device as the first boot up drive in the boot menu of BIOS setup.

· How to update flash ROM in DOS

1. Create ‘boot up’ flash update diskette.
2. Copy a ROM image file (*.wph) into the root of the flash update diskette.
3. Copy phlash16.exe to the flash update diskette.
4. Insert the diskette into the FDD of your computer.
5. Boot your computer with the diskette, and type ‘phlash16*.wph /mode=n’.
6. Cold boot and follow the instruction displayed on the screen.

· Flash options /mode=n

0 – Default mode. Keep the current DMI information and update BIOS image only.

1 – Update DMI information only.
If new DMI information is not specified, the current DMI information is left unchanged.

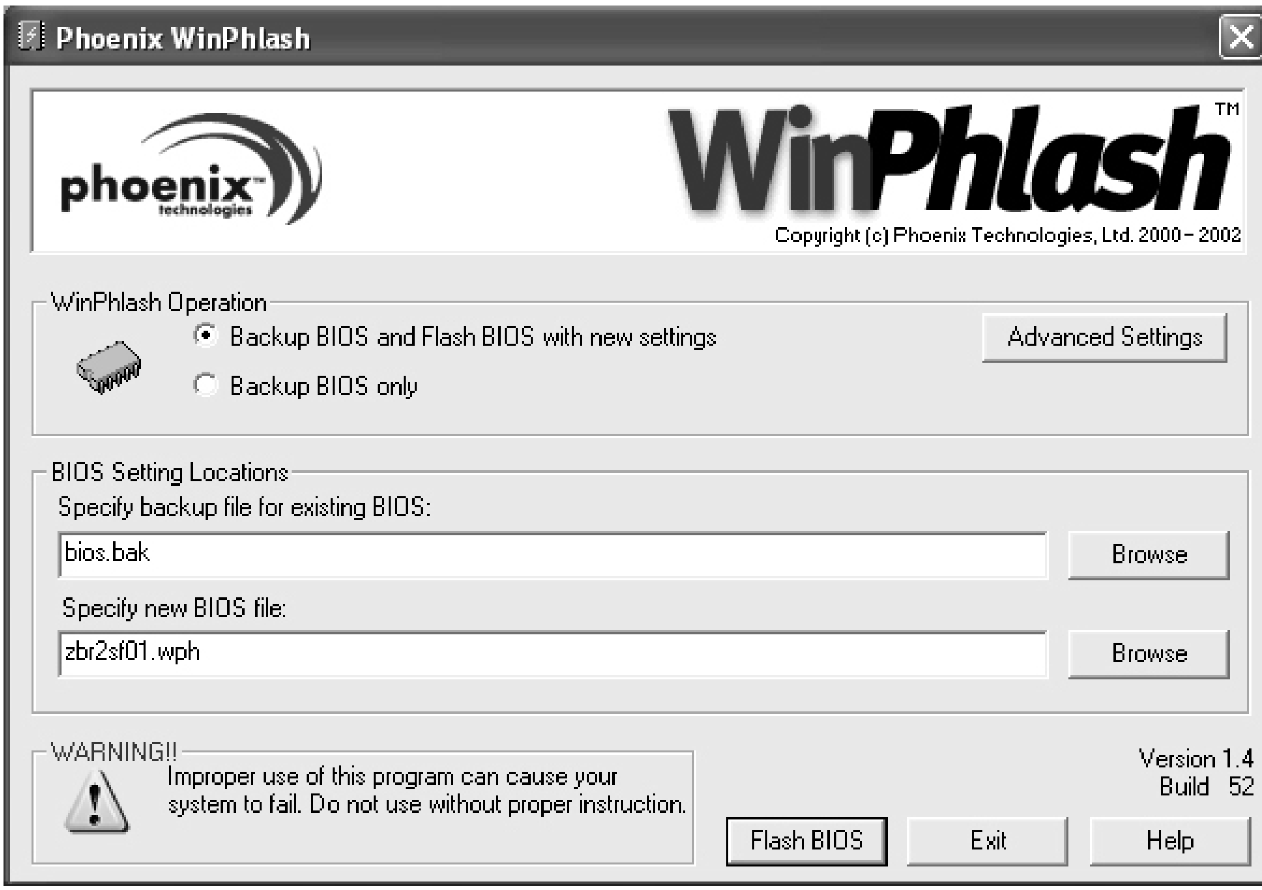
2 – Update BIOS and DMI information.
If new DMI information is not specified, the current DMI information is left unchanged.

3 – Update BIOS and DMI information.
DMI information is updated to the DMI string and options specified in the new BIOS image.

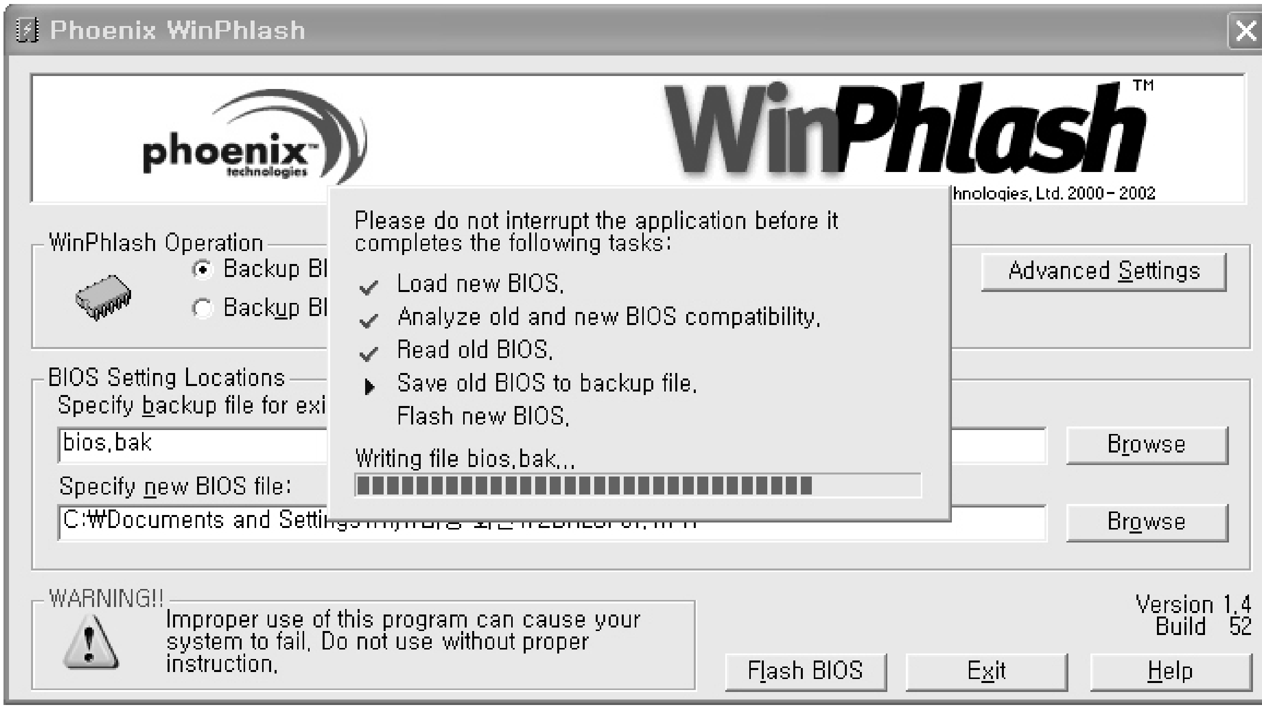
Note
DMI is Desktop Management Interface

■ How to update flash ROM in Windows

1. Quit all running programs.
2. Start WINPHLASH.EXE.



3. Select the procedure you want :
   a. Backup BIOS and Flash BIOS with new settings
   b. Backup BIOS Only
4. Specify the locations for backup and new BIOS files in BIOS Setting Locations.
   a. Enter the name of the backup file for existing BIOS or click Browse to locate the file.
   b. Enter the name of the new BIOS file or click Browse to locate the file.
5. Click Advanced Settings button to access the advanced settings
6. Click Flash BIOS button to start flash BIOS.
7. Wait for the operation to complete. WinPhlash may take one or two minutes to complete flash BIOS operation.



8. After the completion, 'System BIOS was successfully updated' appears on the screen, then the computer restarts.
9. After the restart, make sure the system BIOS is updated.
10. If your computer does not restart automatically, turn off your computer and then turn it back on by pressing power button.

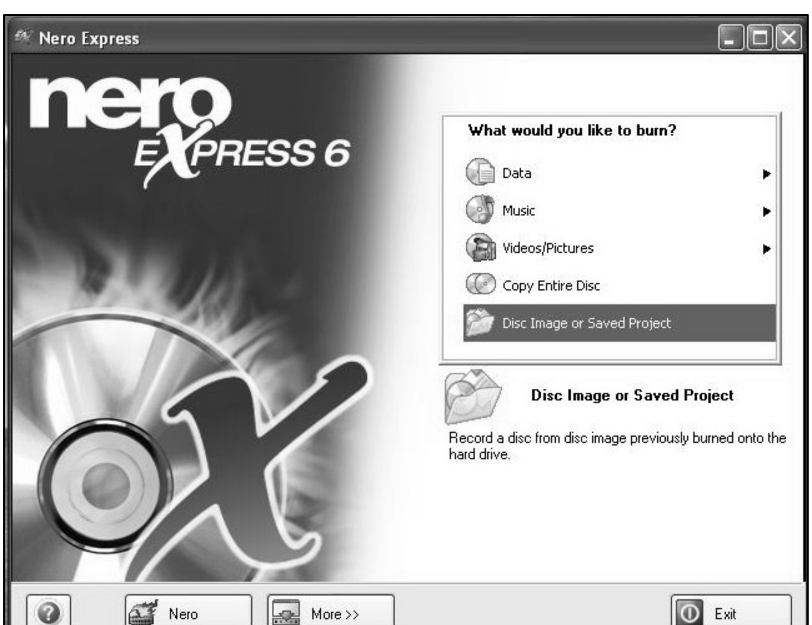
■ BIOS Release Process and Making Bootable CD

1. LGE(Korea) will send BIOS Image (*.iso) to each Service Centers when we have a new revision.
   (Please refer to the BIOS Table (Document No. SBE-HA-01) for latest BIOS)
2. Service center will make Bootable Image CD with Image file(*.iso) as below

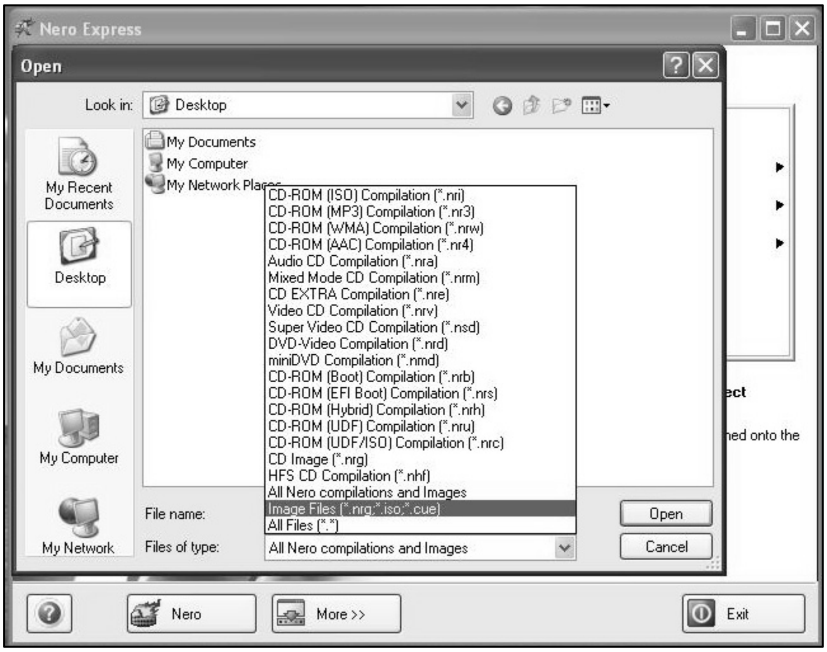
a. Insert empty disc to CD-RW Drive and start Nero Burning ROM.



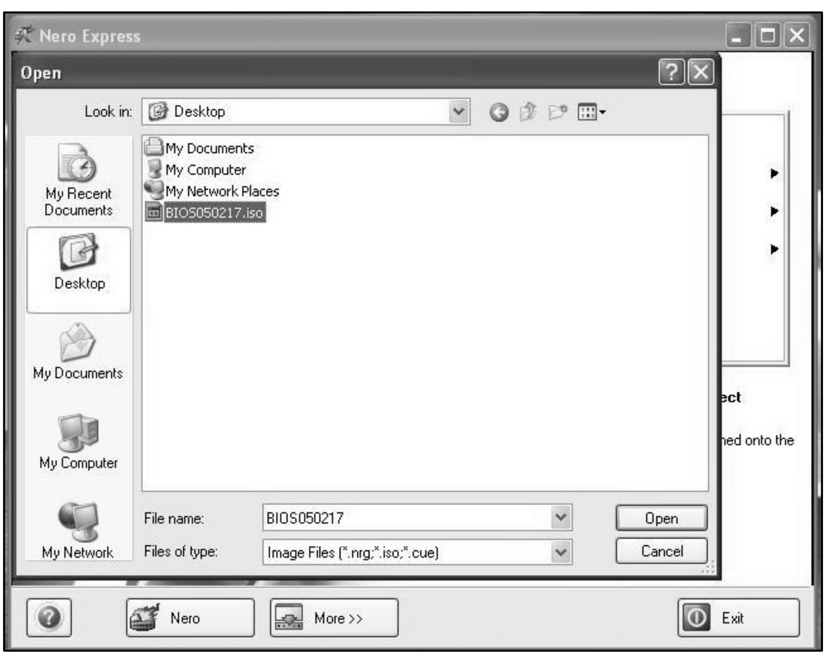
b. Select Disc Image or Saved Project.



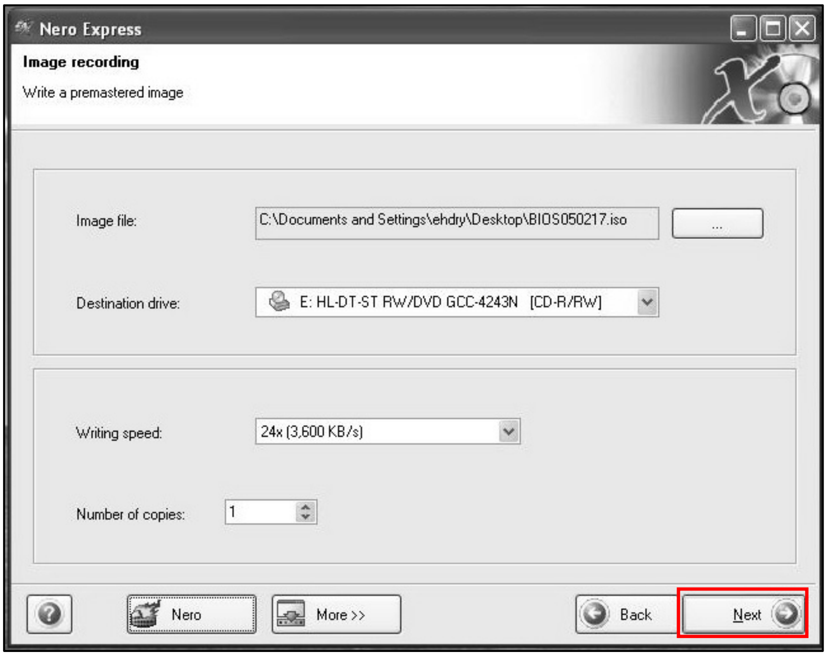
c. Select File Format as "Image Files(*.iso)".



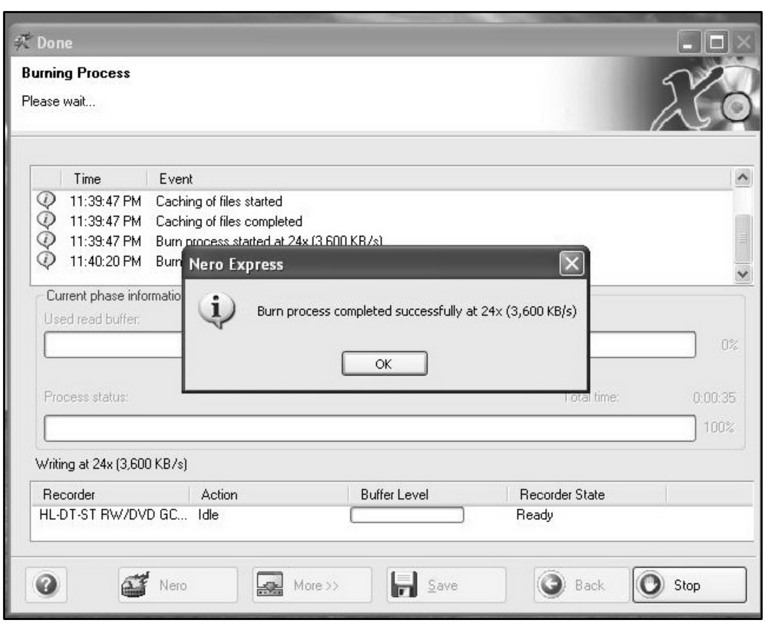
d. Open Image File(*.iso) which is sent from LGE



e. Tab Next then burning will be started

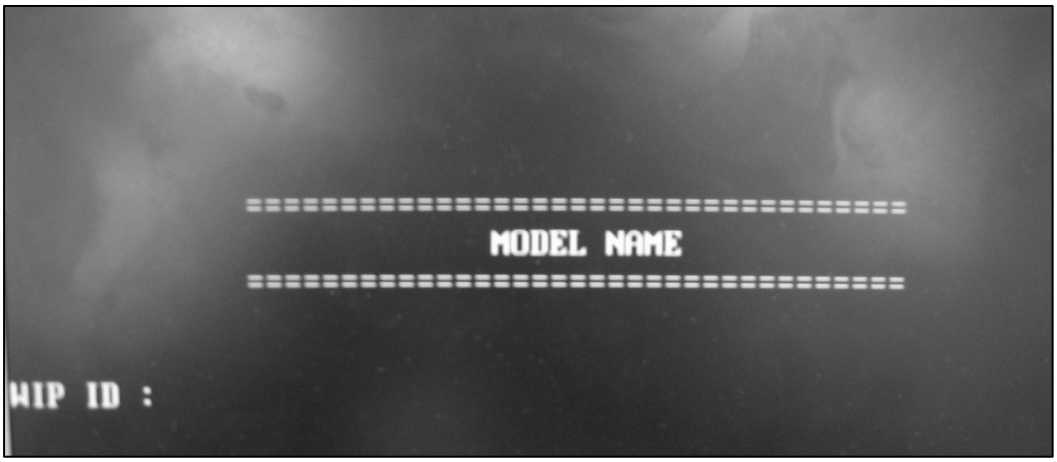


f. Burn process completed as below, and tab "OK"

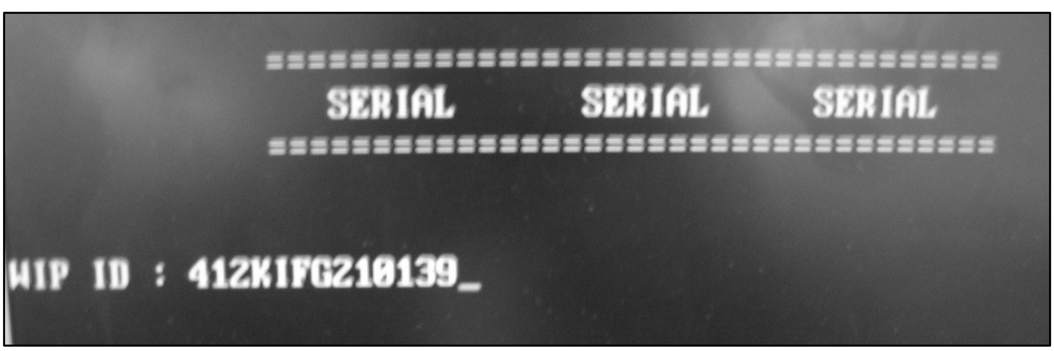


■ BIOS/EC Flash Process

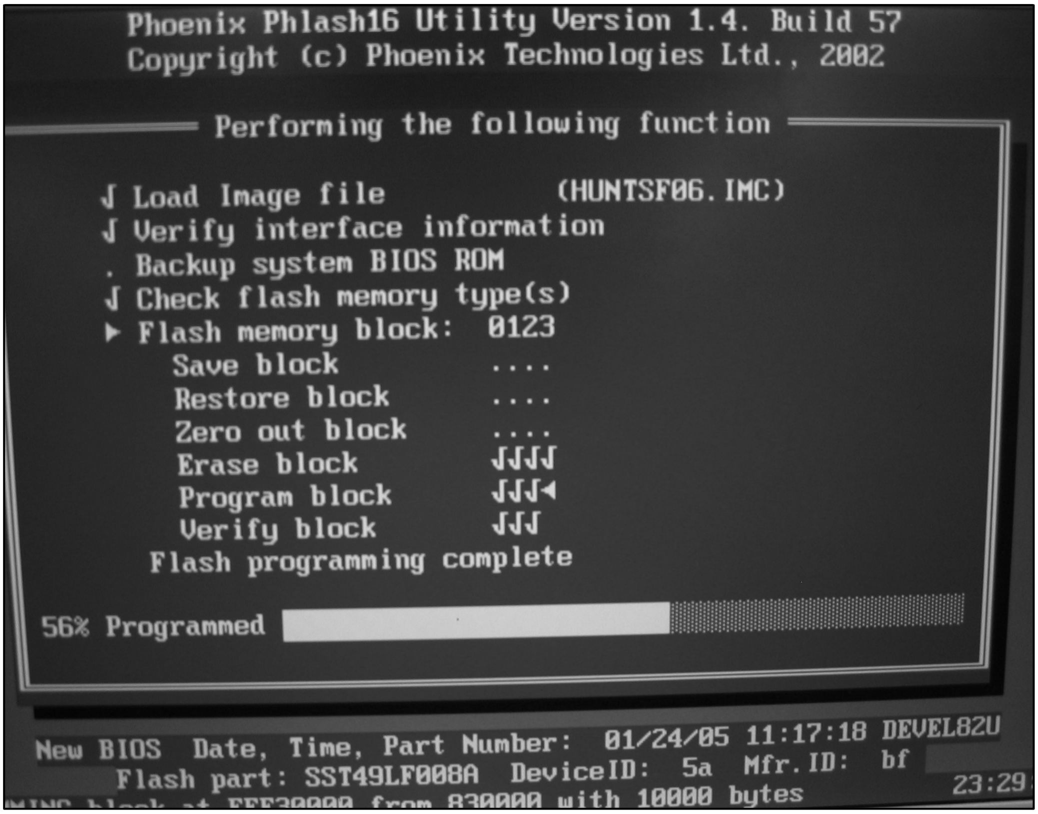
1. Insert Bootable CD in PC, and Turn it on, then PC will boot by DOS mode as below
   (If the EC is not correct or old version, then automatically update EC first and reboot again)
2. Type in Mode Name at the “WIP ID :” then press Enter key (You must use Capital Letter)
   (You can see the Model Name in ID Label at the bottom Case of PC: “M/N: LMXX-XXXX”)



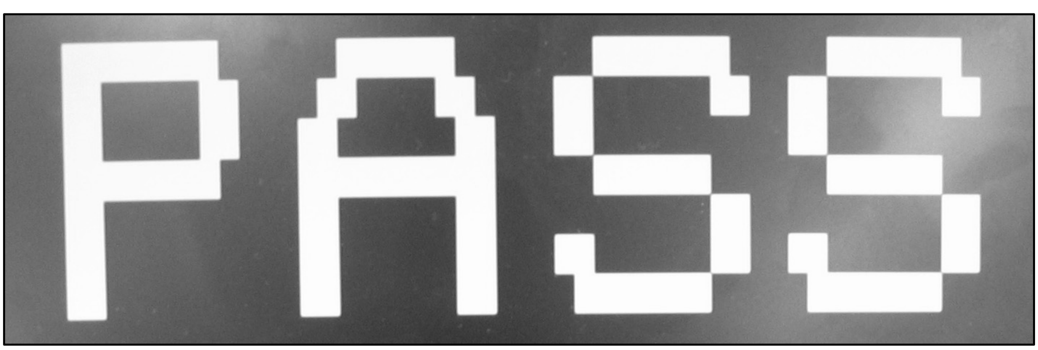
3. Type in Serial No at the “WIP ID :” then press Enter key (You must use Capital Letter)
   (You can see the Serial No in ID Label at the bottom Case of PC: “S/N: 412KIXXXXXXXX”(13digits))



4. You can see the BIOS flash process as below



5. After flashing is completed, you can see the “PASS” on your screen, and reboot your PC



■ BIOS Setup

BIOS (Basic Input and Output System) Setup saves the system configuration in **CMOS RAM**, and check the configurations during startup. Use the **BIOS Setup Utility** to change and save the system environment, hardware configurations, power saving mode, etc.

· Open the BIOS Setup Utility in the following situations :

1. to change the BIOS setup
2. to replace the backup battery
3. system configuration error occurs
4. to change the boot order
5. to set/change a password

Press the power button.
When the **LG** logo appears on the screen, press F2 and enter the **BIOS Setup Utility**.

■ Using the keys

The keys used in the BIOS Setup Utility and their functions are described at the bottom.

· [F1], [Alt] + [H] : General Help

Display the descriptions of the keys used in the setup utility.

· [↓], [↑] : Select Item

Navigate and select items in the setup utility. The selected item becomes highlighted.

· [←], [→] : Select Menu

Move to another menu.

· [−] / [+] , [Space Bar] : Change Values

Change the value of a selected item.

· [F9] : Load Default Configuration

Display Setup Confirmation window. Press Enter to load default configuration.

· [Enter ↵] : Select Sub-Menu

Some items have sub-menus. Display the sub-menu for a selected item.

· [F10] : Save and Exit

Display Setup Confirmation window. Press **Enter** to save and exit.

· [Esc] : Exit

In a sub-menu, press **Esc** to move to the previous window. In Main menu, click **Esc** to move to Exit menu.

■ Main menu

System Time
Current time. Use <**Tab**>, <**Shift-Tab**>, or <**Enter**> keys to move around these fields. To change the value, press <+> or <–> key.

System Date
Today date. Use <**Tab**>, <**Shift-Tab**>, or <**Enter**> keys to move around these fields. To change the value, press <+> or <–> key. Set any date from year 1981 to 2079. It will automatically keep track of leap years. The system date can also be set from the operating system.

Product Name
This shows the name of PC.

Processor Type
This shows the type of CPU.

Processor Spd
This shows the speed CPU.

BIOS Version
This shows the Version of BIOS.

KBC Version
This shows the Version of KBD firm ware.

UUID
This is for display only. This shows the UUID.

Pri Slave
Enter its submenu by pressing <**Enter**>. In this submenu, it would show the device of Primary IDE Slave is HDD and its parameters.

Sec Master
Enter its submenu by pressing <**Enter**>. In this submenu, it would show the device of Secondary IDE Master is optical drive and its parameters.

Total Memory
This is for display only. This shows size of system memory.

■ Advanced menu

Legacy USB Support
There are two options to this field: **Enabled**, and **Disabled**. This field allows you to **enable** or **disable** the legacy USB support.

Boot-time Diagnostic Screen
Enables the Boot-time Diagnostic Screen.

Core Multi-Processing
Enables the Dual-Core technology.

Boot-time Diagnostic Screen
Enables the Boot-time Diagnostic Screen.

SATA Controller Mode
Set SATA (Serial ATA) Controller Mode.

AHCI Configuration
Enables the AHCI (Advanced Host Controller Interface).

Battery Charge Stop Percentage
Set Battery Charge Stop Percentage.

Fan Mode Control
Set Fan Mode Control.

Fn Key Setup
Set Sticky fn key function.

Wake On Lan
Enables Wake On Lan.

PCIE Device Wake Up
Enables Wake On PCIE device.

PXE/Remote Boot OPROM
Enables PXE/Remote Boot.

MEF Support
Control the MEF device in an ACPI environment.

SIO Control Sub-Menu
Control the configuration of various National 393 SIO devices.

■ Security menu

Supervisor Password Is
This shows the system's supervisor password has been set, or not.

Set Supervisor Password
Set Supervisor Password.

User Password Is
This shows the system's User Password has been set, or not.

Set User Password
Set User Password.

Password on boot
Enables Password on boot.

HDD Password Is
This shows the system's HDD Password has been set, or not.

Set HDD Password
Set HDD Password.

■ Boot menu

Boot menu enables you to set the boot order for the CD-ROM drive, Removable devices Hard drive, and Network boot as shown below.

Boot Priority order / Excluded from boot order

Up and Down arrows select a device. <+> and <-> moves the device up or down. <f> and <r> specifies the device fixed or removable.

<x> exclude or include the device to boot.

<Shift + 1> enables or disables a device.

<1 – 4> Loads default boot sequence.

■ Boot menu

Exit Saving Changes
Select Exit Saving Changes to save new setup information in CMOS RAM. CMOS RAM stores the information using the backup battery; therefore, the information will not be lost when the computer is turned off.

Exit Discarding Changes
Select Exit Discarding Changes to discard new setup information. If you made changes to items other than date, time, and passwords, the Setup Warning asks you to save the new configurations. Select Yes and press Enter to save the new configuration.

Load Setup Defaults
Select Load Setup Defaults to change the setup information to the factory default settings. If you select Load Setup Defaults or press F9, Setup Confirmation asks you to confirm your selection. Press Yes to load setup defaults.

Discard Changes
Discard change value.

Save Changes
Save change value.

Backup and Restore Security Platform Data

Security Platform Backup includes all data required in case of emergency. After a hardware or storage media failure or a Trusted Platform Module failure, Security Platform Restoration reestablishes access to Security Platform Features for all users.

In addition you can backup and restore your Personal Secure Drive data. Data from other applications using the Security Platform Solution (e.g. Secure e-mail) is not included in Security Platform backup.

Backup scope

Security Platform backup comprises the following data:

Security Platform Credentials and Settings	
Backup Contents	A copy of the user-specific credentials and settings which are stored on the Security Platform.
Purpose	Restoration of user-specific credentials and settings after a hardware or storage media failure. Otherwise users could not access Security Platform Features anymore and user data would be lost.
Archives	• **Automatically written Backup Archive** ("System Backup Archive", e.g. file `SPSystemBackup.xml` and folder `SPSystemBackup`): Set up by Security Platform Administrator. Contains credentials and settings of all Security Platform Users (for one or multiple Security Platform computers). Also contains computer identification and user identification, which are used to match computers and users during the restoration process. • **Manually written Backup Archive** (e.g. `SPBackupArchive.xml`): Created by Security Platform User. Contains credentials and settings of one Security Platform User (for one Security Platform computer). Also contains computer identification and user identification, which are used to match computer and user during the restoration process.
Emergency Recovery	
Backup Contents	All Security Platform Basic User Keys, encrypted specifically for Emergency Recovery.
Purpose	Re-encryption of all Basic User Keys after a Trusted Platform Module failure. In this case a new Security Platform has to be set up and a new owner key is created. Emergency Recovery allows the re-encryption of Basic User Keys from the old owner key to the new one. Otherwise users could not access Security Platform Features anymore and user data would be lost.
Archives	• Emergency Recovery data is included in **automatically written Backup Archives**. • **Emergency Recovery Token** (e.g. `SPEmRecToken.xml`): Created by Security Platform Administrator. Protected with a dedicated password. Is required for a restoration of Emergency Recovery data.

Personal Secure Drive	
Backup Contents	A copy of the PSD encrypted data and configuration settings.
Purpose	Restoration of PSD encrypted data and configuration settings after a hardware or storage media failure. Otherwise users could not decrypt their PSD data anymore. **Notes:** • In contrast to the PSD Backup, standard hard disk backup tools produce unencrypted backups. • Lost PSD credentials can only be restored via Personal Secure Drive Recovery.
Archives	• PSD configuration settings are included in both **automatically written Backup Archives** and **manually written Backup Archives**. • **PSD backup file** (e.g. `SpPSDBackup.fsb`): A backup copy of the PSD image file may be created during a Security Platform User's manual backup.

■ Restoration Cases

Depending on the type of emergency there are different restoration cases

Restoration Case	Affected Restoration Scope
Broken hard disk or lost data	Security Platform Credentials and Settings, Personal Secure Drive
New Trusted Platform Module	Emergency Recovery
New Security Platform to be initialized	Emergency Recovery, Security Platform Credentials and Settings, Personal Secure Drive

■ How to Backup and Restore

How to configure automatic backups ("System Backup")	Software Component to use
Administrative Task: Configure automatic backups for all users (including Security Platform Credentials and Settings, Emergency Recovery and PSD configuration settings).	If Security Platform is not yet initialized: *Initialization Wizard* If Security Platform is already initialized: *Settings Tool - Backup - Configure...*
How to backup ("Manual Backup")	**Software Component to use**
User Task: Run backup manually for the current user.	*Settings Tool - Backup - Backup...*
How to restore	**Software Component to use**
Administrative Task: Prepare restoration for certain users. User Task: Run restoration manually for current user. If restoration has been prepared for current user, then complete the restoration. If a manually written Backup Archive is available and no Emergency Recovery data needs to be restored, then a user can perform restoration without preparation by an administrator.	*Settings Tool - Backup - Restore...*

■ Backup

With this page you can configure automatic Security Platform backups.

The following table gives hints on how to use this wizard page.

Wizard Page Element	Explanation
Backup location: Browse...	Security Platform credentials and settings will be regularly saved to a Backup Archive. Type in path and file name or browse for it. An automatically written Backup Archive consisting of an XML file and a folder with the same name will be created, e.g. file `SPSystemBackup.xml` and folder `SPSystemBackup`. Please use the extension *.xml.
Schedule...	A scheduled backup will be created. Click here to view and modify the backup scheduling. Please note that automatic backups are only executed if your PC is not shut down at the scheduled time. Please note that the user account chosen for the scheduled backup must be member of the group "Administrators" or "Backup Operators".

■ Infineon Platform Security Backup

With this page you can backup and restore Security Platform credentials, Security Platform settings and Personal Secure Drives.
If Enhanced Authentication is enabled, you can also create backups of your authentication device.

Availability of page: This page is only available on an initialized Security Platform, if one of the following conditions is fulfilled:

•The current user has administrative rights.
•The current user is an initialized Security Platform User, and the policy *Allow User Enrollment* is enabled.

Buttons:

•Buttons for administrative tasks are disabled for users without administrative rights.
•Buttons are disabled, if corresponding functions are not available in a certain Security Platform state.

The following table describes all backup and restore functions.

Explanation
Click here to set up automatic Security Platform backups. Infineon Security Platform Initialization Wizard will be started. This feature is only available, if the current user account has administrative rights.
Click here to start a manual backup of your Security Platform Settings and credentials. If you have configured Personal Secure Drive (PSD), you can backup your PSD too. The Infineon Security Platform Backup Wizard will be started. This button is disabled, if the Infineon Security Platform is disabled, not yet set up or the user is not set up.
Click here to start a manual restore of archived Security Platform Settings and credentials. If you have a backup of your Personal Secure Drive (PSD), you can restore your PSD too. The restore part of the Infineon Security Platform Backup Wizard will be started. This button is disabled, if the Infineon Security Platform is disabled or not yet set up.
Click here to create a backup authentication device. This feature is only available, if Enhanced Authentication is enabled.

Chapter 4. Symptom-to-part index

The symptom-to-part index in this section lists symptoms and errors and their possible causes.
The most likely cause is listed first.

> **Note**
> If replacing a part (FRU) does not solve the problem, put the original part back in the computer.
> Do not replace a non-defective FRU.

■ Power system checkout

· To verify a symptom, do the following :

1. Power off the computer.
2. Remove the battery pack.
3. Connect the AC adapter.
4. Check that power is supplied when you power on the computer.
5. Power off the computer.
6. Disconnect the AC adapter and install the charged battery pack.
7. Check that the battery pack supplies power when you power on the computer.

· If you suspect a power problem, see the appropriate one of the following power supply checkouts :

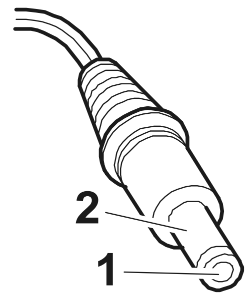
1. Checking the AC adapter
2. Checking the operational charging
3. Checking the battery pack
4. Checking the backup battery

· Checking the AC adapter

If the power-on indicator does not turn on, check the power cord of the AC adapter for correct continuity and installation.

If the computer does not charge during operation, go to “Checking operational charging.”

To check the AC adapter, do the following :



Pin	Voltage (V dc)
1	+18.05 ~ +19.95
2	Ground

1. Unplug the AC adapter cable from the computer.
2. Measure the output voltage at the plug of the AC adapter cable. See the following figure :
3. If the voltage is not correct, remove the power code form AC adapter.
4. 10 seconds later, connect the power code, then measure the output voltage.
5. If the voltage is not correct, change the AC adapter.

· If the voltage is not correct, replace the AC adapter.

· If the voltage is acceptable, do the following :

1. Replace the system board.
2. If the problem persists, check the AC adapter whether it is correct product or not.

Note
Noise from the AC adapter does not always indicate a defect.

· Checking operational charging

1. To check whether the battery charges properly during operation, use a discharged battery pack or a battery pack that has less than 50% of the total power remaining when installed in the computer. Perform operational charging. If the battery status indicator or icon does not turn on, remove the battery does not turn on, replace the battery pack.
2. If the charge indicator still does not turn on, replace the system board. Then reinstall the battery pack.

Note
Do not charge battery pack, when its temperature is below 0℃ or above 75℃.

· Checking the battery pack

1. Open the Power Meter window by clicking **Start →Control Panel→Power Options** and then; check the total power remains. Battery charging does not start until the power Meter shows that less than 95% of the total power remains; under this condition the battery pack can charge to 100% of its capacity. This protects the battery pack from being overcharged or from having a shortened life.
2. To check the status of your batter, move your cursor to the Power Meter icon in the icon tray of the Windows taskbar and wait for a moment (but do not click), and the percentage of battery power remaining is displayed. To get detailed information about the battery, double-click the Power Meter icon.

Note
If the battery pack becomes hot, it may not be able to charge. Remove it from the computer and Leave it at room temperature for a while. After it cools down, reinstall and recharge it.

· The Characteristics of the battery pack

1. Self-discharge

   The battery gradually loses its power over time without ever being used.

2. Periodic full discharge / charge

   Frequent recharge of the battery pack can reduce the capacity of the battery pack. When this happens, you can perform the full discharge / charge to improve the capacity. You should perform periodic full discharge /charge once every 30~60 days.

   You should always use the battery until its power is low; then fully charge the battery.

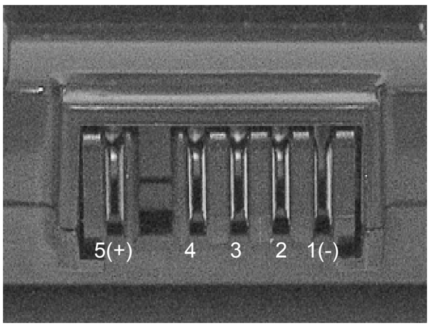
3. Trickle charge

   If the temperature of the battery pack drops below 10℃ , the trickle charging begins.

   The trickle charging may take 32 hours for the battery pack to be fully charged.

· To check the battery pack, do the following :

1. Power off the computer.
2. Remove the battery pack and measure the voltage between battery terminals 1(-) and 5(+). See the following figure :



Terminal	Voltage (V dc)
1	Ground(-)
5	+0V ~ +12.6V (6 cell)

3. If the voltage is still less than +11.1 V DC after recharging, replace the battery.
4. If the voltage is more than +11.1 V DC, measure the resistance between battery terminals 1 and 2. The resistance must be 2 to 4㏀ (typically 3㏀).
5. If the resistance is not correct, replace the battery pack. If the resistance is correct, replace the system board.

Note

Charging will take at least 3 hours.

Note

Battery is an expendable supplier, so its capacity and used time can be reduced by using the computer.

■ Numeric error codes

Symptom / Error	FRU or action, in sequence
0200 Fixed disk failure (The hard disk is not working)	1.Reset the hard-disk drive. 2.Load Setup Defaults in BIOS Setup Utility. 3.Hard-disk drive. 4.System board.
0210 Stuck Key error	1.Check the keyboard if it is pressed. 2.Replace the keyboard.
0211 Keyboard error	Run interactive tests of the keyboard and the auxiliary input device.
0212 Keyboard Controller Failed	System board.
0220 Monitor type error - Monitor type does not match the one specified in CMOS.	Load Setup Defaults in BIOS Setup Utility.
0230 System RAM error - System RAM Failed at offset.	1.DIMM 2.System board
0231 Shadow RAM error - Shadow RAM failed at offset	System board
0232 Extended RAM error - Extended RAM Failed at address line	1. DIMM 2. System board
0250 System battery error – System battery is dead	Replace the backup battery and run BIOS Setup Utility to reset the time and date.

Symptom / Error	FRU or action, in sequence
0251 System CMOS checksum bad – System CMOS checksum is not correct. – Default configuration used.	Replace the backup battery and run BIOS Setup Utility to reset the time and date.
0252 Password checksum bad – The password is cleared.	Reset the password by running BIOS Setup Utility.
0260 System timer error	1. Replace the backup battery and run BIOS Setup Utility to reset the time and date. 2. System board.
0271 Check date and time settings – Date and time error.	Run BIOS Setup Utility to reset the time and date.
0280 Previous boot incomplete - Default configuration used	1. Load "Setup Default" in BIOS Setup Utility. 2. DIMM. 3. System board.
0281: Memory Size found by POST differed from EISA CMOS	Load Setup Defaults in BIOS Setup Utility.
02B0 Diskette drive A error	Set up the diskette type in BIOS Setup Utility.
02B1 Diskette drive B error	Set up the diskette type in BIOS Setup Utility.
02B2 Incorrect drive A type – Floppy diskette drive error	1. Floppy diskette drive. 2. External FDD cable. 3. I/O card.
02B3 Incorrect Drive B type	1. Floppy diskette drive. 2. External FDD cable. 3. I/O card.
02D0 System cache error – Cache disabled (RAM cache failed and BIOS disabled)	1. Load "Setup Default" in BIOS Setup Utility. 2. System board.
02F4 EISA CMOS not writable	1. Load "Setup Default" in BIOS Setup Utility. 2. Replace the backup battery. 3. System board.
02F5 DMA test failed	1. DIMM 2. System board
02F6 Software NMI failed	1. DIMM 2. System board

Symptom / Error	FRU or action, in sequence
02F7 Fail – Safe timer NMI failed	1. DIMM 2. System board
0611 IDE configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0612 IDE configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0613 Com A configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0614 Com A configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0615 Com B configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0616 Com B configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0617 Floppy configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0618 Floppy configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0619 Parallel port configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
061A Parallel port configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.

■ Error message

Symptom / Error	FRU or action, in sequence
Device address conflict.	1. Load Setup Defaults in BIOS Setup Utility. 2. Backup battery. 3. System board.
Allocation error for device.	1. Load Setup Defaults in BIOS Setup Utility. 2. Backup battery. 3. System board.
Failing bits: nnnn.	1. DIMM. 2. System board.
Invalid System Configuration Data.	1. DIMM. 2. System board.
I/O Device IRQ Conflict.	1. Load Setup Defaults in BIOS Setup Utility. 2. Backup battery. 3. System board.
Operating System not found.	1. Check that the operating system has no failure and is installed correctly. 2. Enter BIOS Setup Utility and see whether the hard -disk drive and the diskette drive are properly identified. 3. Reset the hard-disk drive. 4. Reinstall the operating system. 5. Diskette drive. 6. Hard-disk drive. 7. System board.
Hibernation error.	1. Restore the system configuration to what it was before the computer entered hibernation mode. 2. If memory size has been changed, re-create the hibernation file.
FAN error.	Fan.
Thermal sensing error.	System board.

■ LCD-related symptoms

Note
Before removing or disassembling LCD, power off the computer, unplug all power cords from electrical outlets, remove the battery pack also.

Symptom / Error	FRU or action, in sequence
LCD screen becomes dark suddenly.	Check out Battery Miser.
Nothing displayed on LCD screen.	1. Check out Battery Miser. 2. Choose Never in the Turn off Monitor item on Power Options Properties. 3. Check the power save mode switch if it is pressed by something. 4. Check the System is in standby or hibernation mode.
LCD backlight not working. LCD too dark. LCD brightness cannot be adjusted.	1. Reconnect inverter to the board connector. 2. Replace inverter. 3. LCD assembly. 4. System board.
LCD color cannot be adjusted. LCD screen abnormal. Characters missing pixels. LCD screen unreadable. Wrong color displayed.	1. Reset all LCD connectors. 2. Replace LCD cable. 3. LCD assembly. 4. System board.
Horizontal or vertical lines displayed on LCD	LCD assembly.
Power-on indicator on, and a blank\LCD during POST.	LCD assembly. System board.

■ Indeterminate problems

· You are here because the diagnostic tests did not identify which adapter or device failed, wrong devices are installed, a short circuit is suspected, or the system is inoperative.
Follow these procedures to isolate the failing FRU (do not isolate FRUs that have no defects).

· Verify that all attached devices are supported by the computer.

· Verify that the power supply being used at the time of the failure is operating correctly.

1. Power off the computer
2. Visually check each FRU for damage. Replace any damaged FRU.
3. Remove or disconnected all of the following devices :
   a. Non-LG devices.
   b. Printer, mouse, and other external devices.
   c. Battery pack.
   d. PC cards.
   e. ODD (CD-ROM, Combo) drive or FDD drive in the Bay.
   f. Hard-disk drive.

> **Note**
> Use the other memory card because it needs when operating computer.

4. Power on the computer.
5. Determine whether the problem has changed.
6. If the problem does not recur, reconnect the removed devices one at a time until you find the failing FRU.
7. If the problem remains, replace the following FRUs one at a time.
   (do not replace a non-defective FRU)
   a. LCD assembly (Check external monitor whether the same problem recurs or not).
   b. Keyboard.
   c. Keydeck (TouchPad and Scroll Button assembly).
   d. System board.

Chapter 5. Removing and replacing a part (FRU)

Danger

Before removing any FRU, power off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any interconnecting cables.

Caution

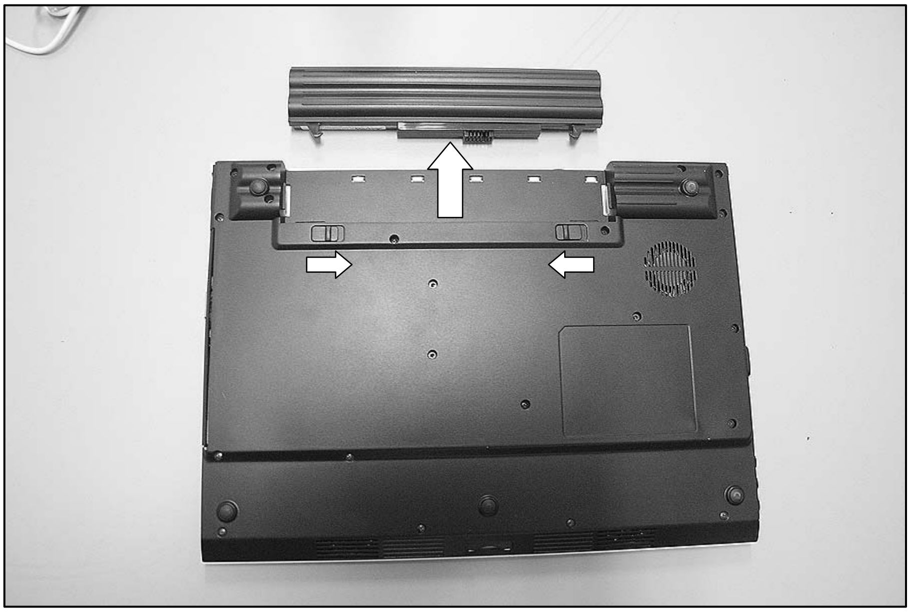
Before the computer is powered on after FRU replacement, make sure that all screws, springs, and other small parts are in place and are not loose inside the computer. Verify metal flakes can cause electrical short circuits.

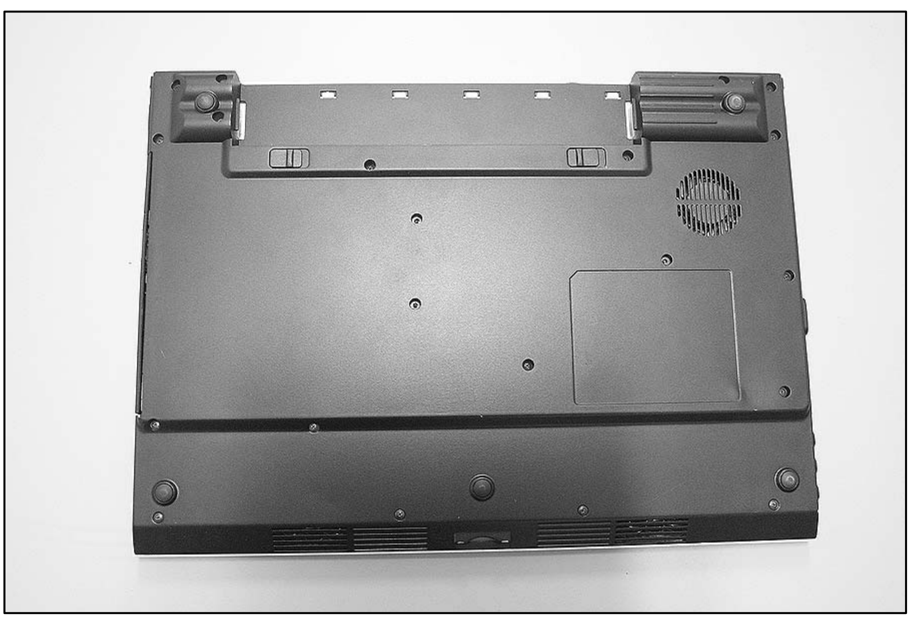
Note

As for the screw, every Torque 3±0.2Kgfcm(0.196Nm)

■ 1010 Battery Pack

1. Push the battery latch in the direction shown below; then slide the battery pack out of the slot.

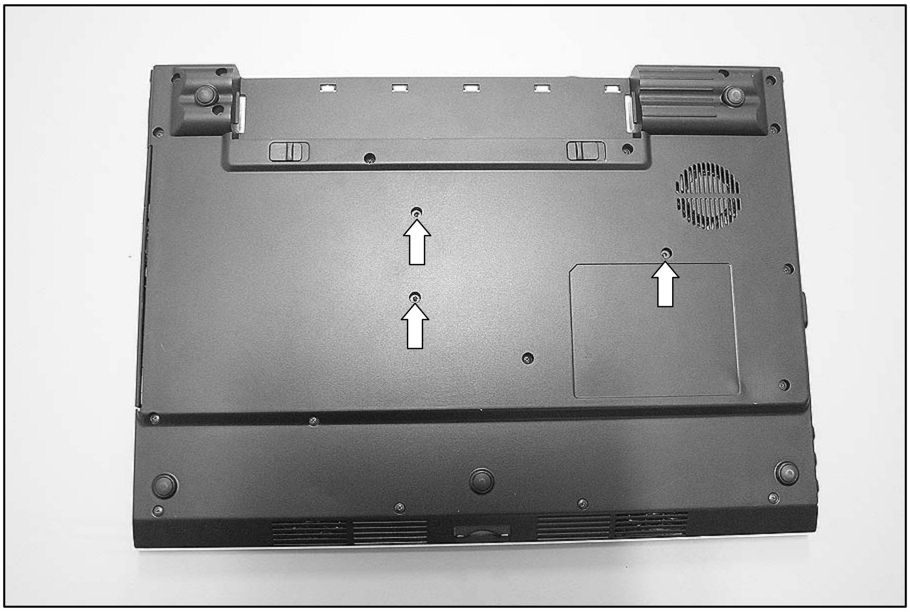




■ 1020 Keyboard

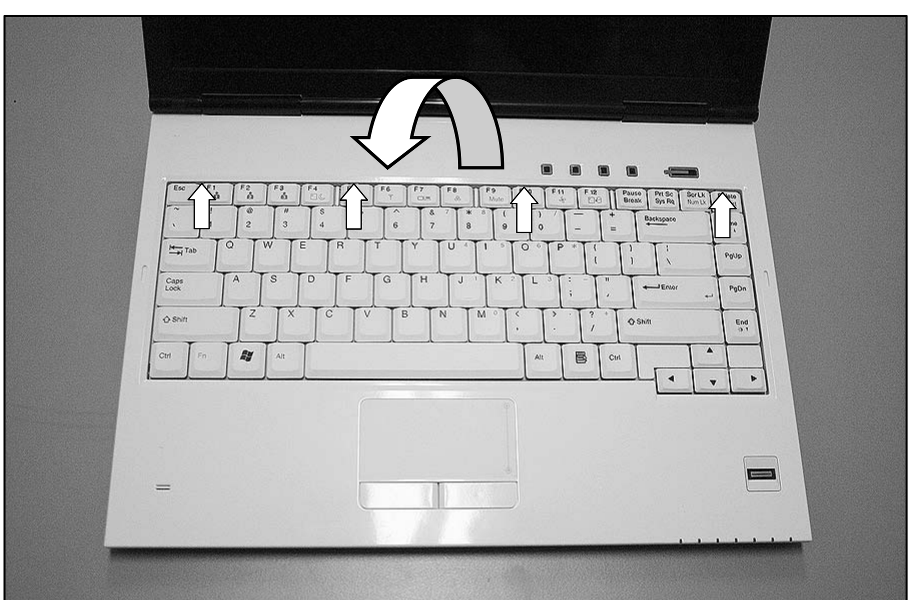
※ Remove the following parts in order before replacing this part
a. Battery Pack(1010)

1. Remove 3 screws.

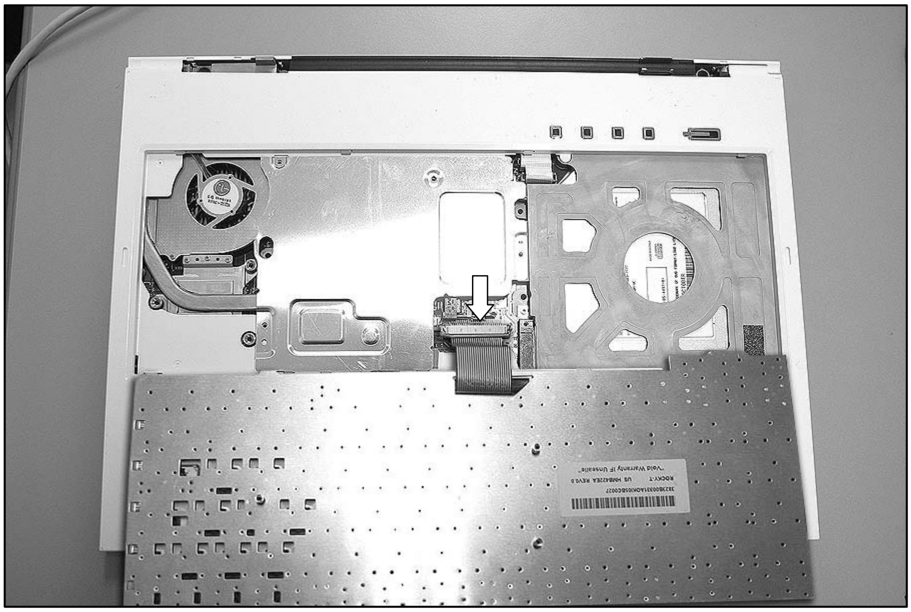


No.	FRU No.	Specification	Qty
1	1SZZBA4063G	M4.5 x L6.0	3

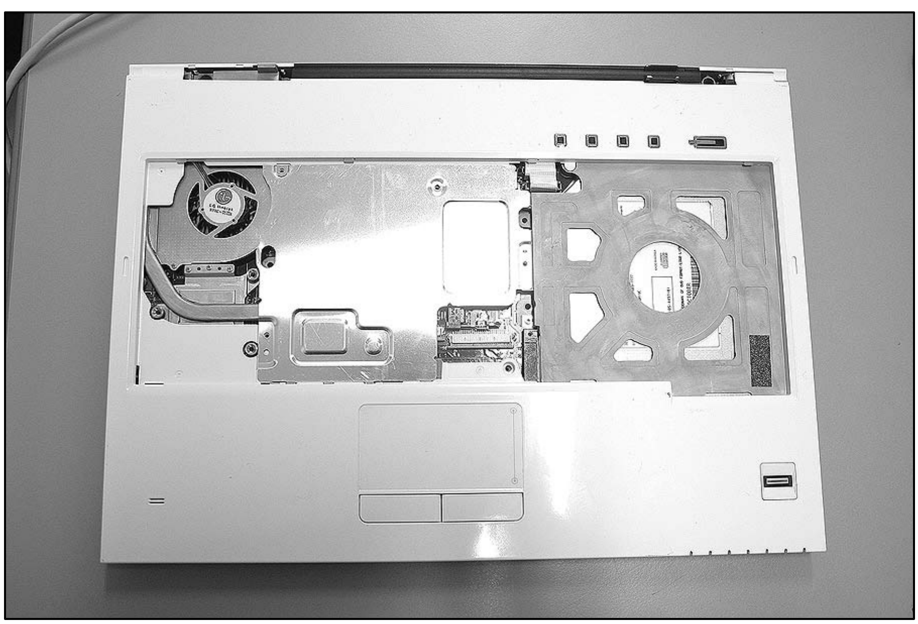
2. To remove 4 hooks, insert (-) type screwdriver into a hook located at the keyboard, and pull it up.



3. Disconnect the Keyboard Connector.



4. Remove the Keyboard.

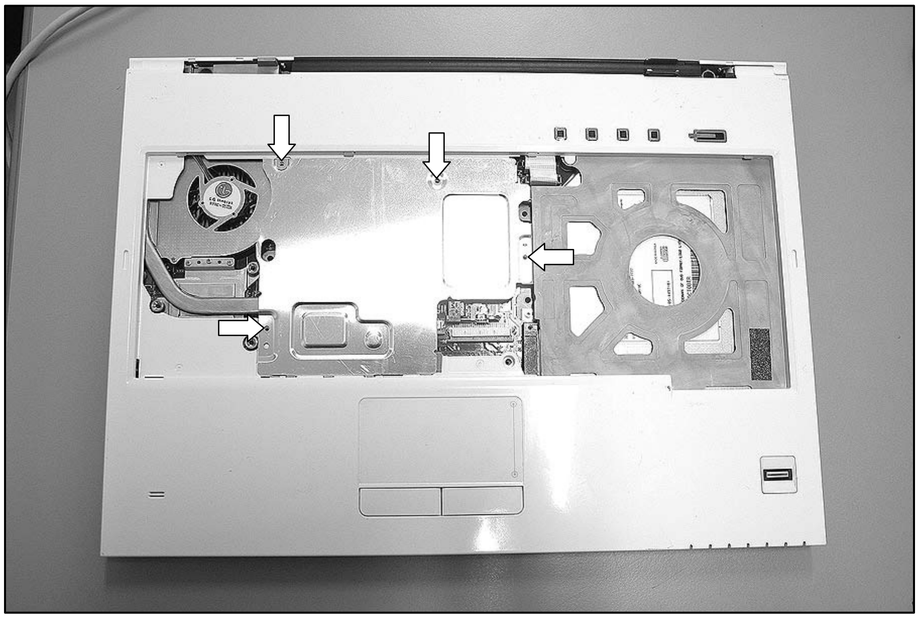


■ 1030 PCIE WLAN Card

※ Remove the following parts in order before replacing this part

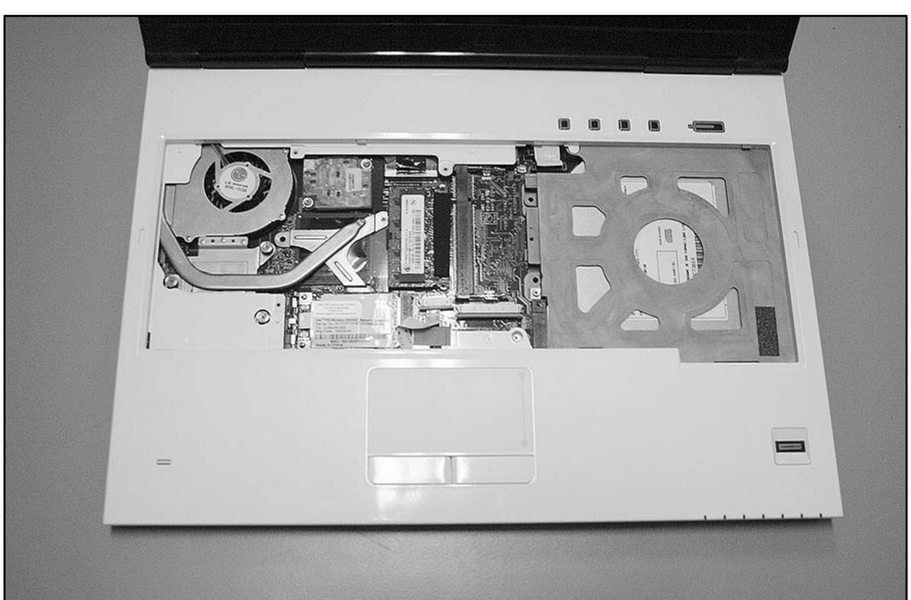
a. Battery Pack(1010) b. Keyboard(1020)

1. Remove 4 screws.

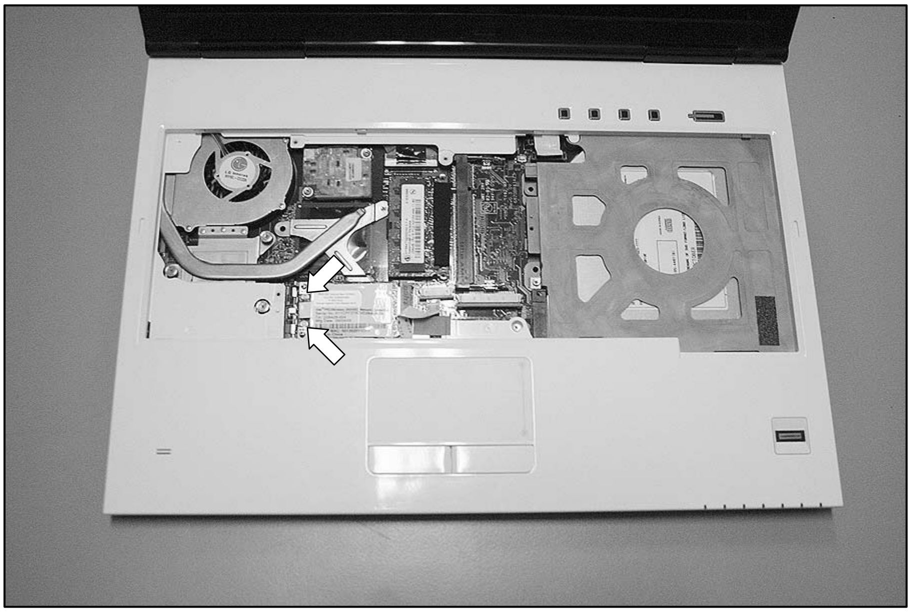


No.	FRU No.	Specification	Qty
1	1SZZBA4041A	M3.5 x L3.0	4

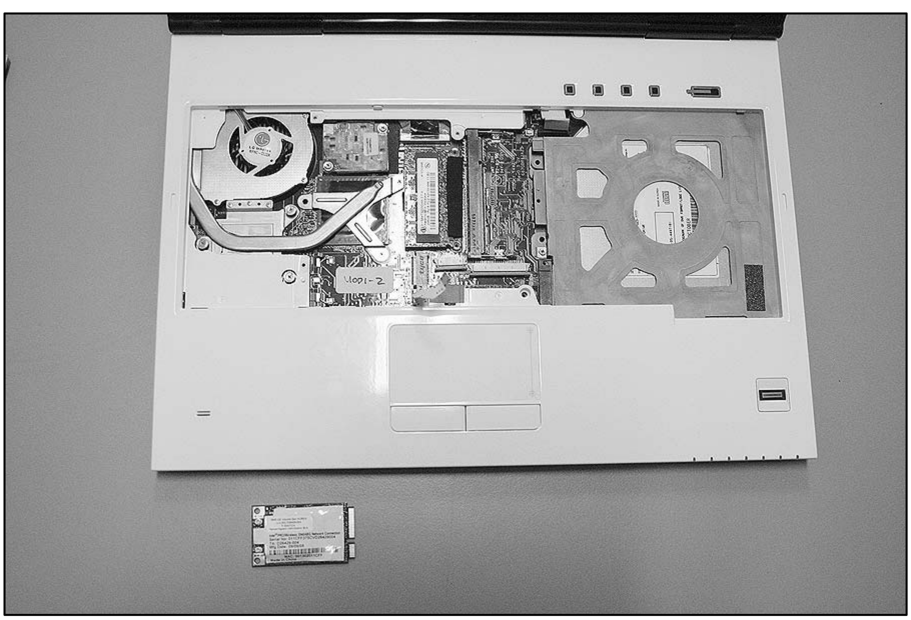
2. Remove the plate.



3. Disconnect the WLAN Cable.



4. Remove the WLAN Card.

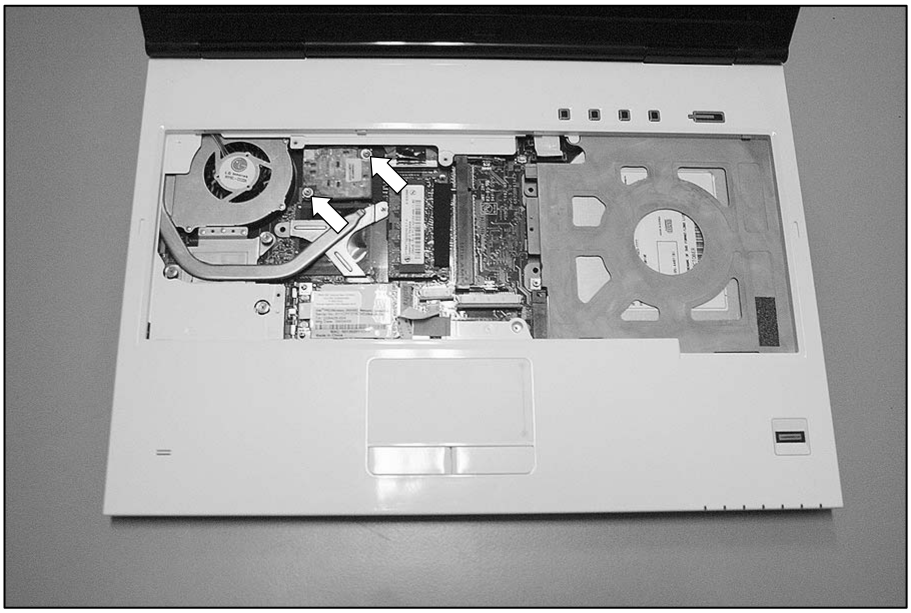


■ 1040 MDC Card

※ Remove the following parts in order before replacing this part

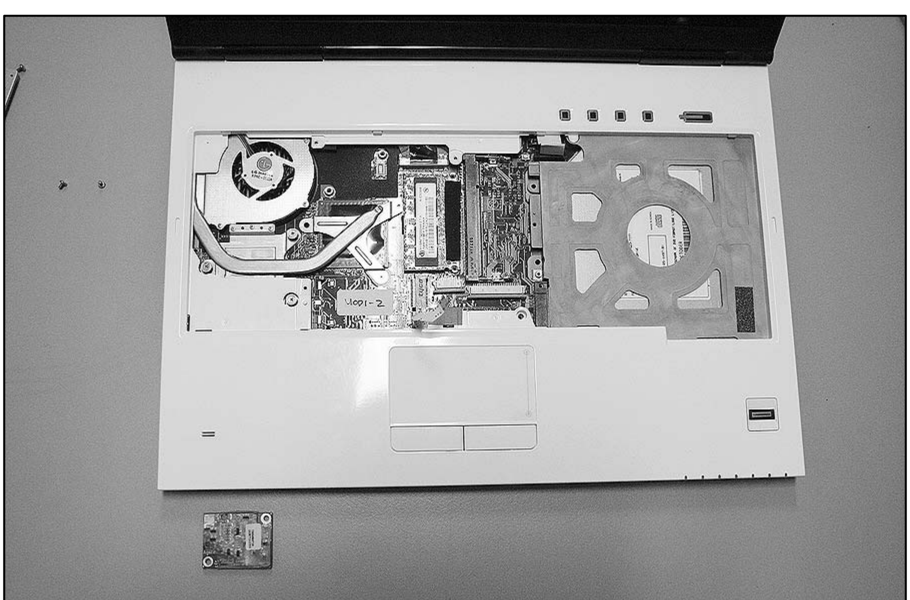
a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030)

1. Remove 2 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4023A	M2.0 x L3.5	2

2. Remove the MDC Card.

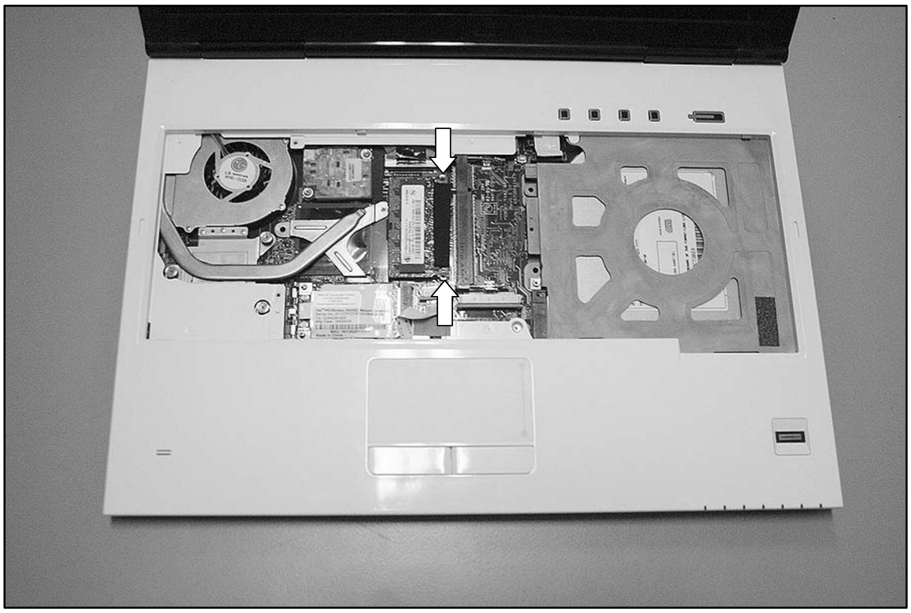


■ 1050 Memory

※ Remove the following parts in order before replacing this part

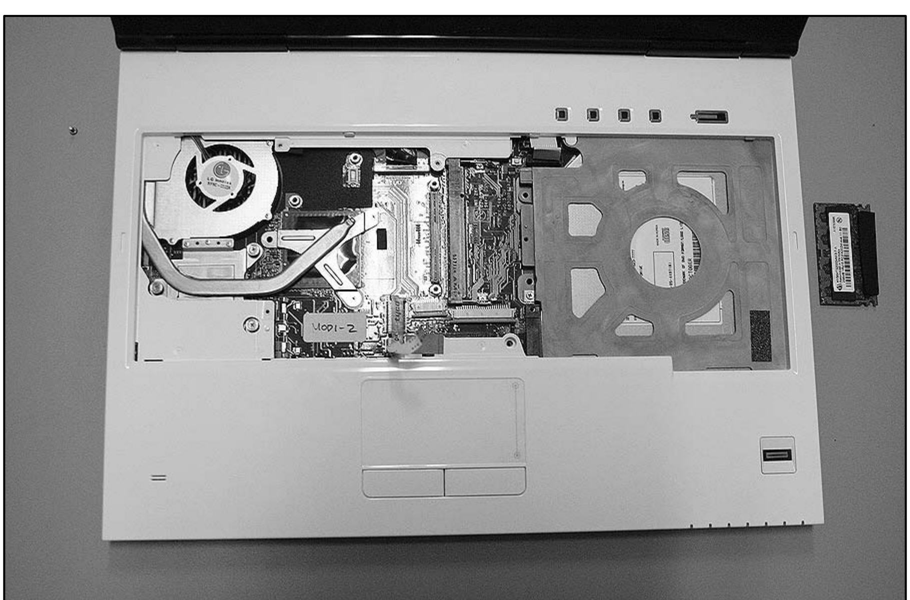
a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030)

1. Remove 2 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4023A	M2.0 x L3.5	2

2. Remove the Memory.



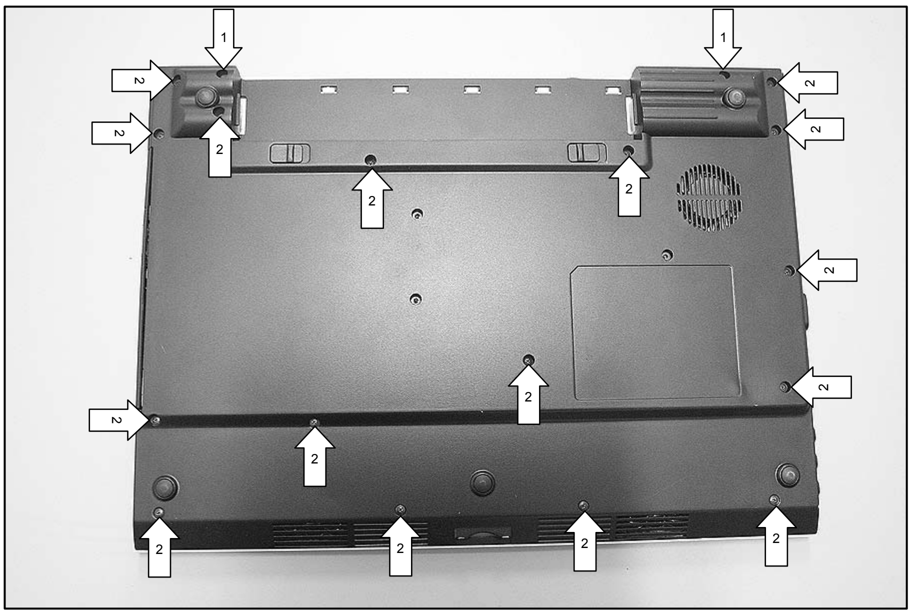
■ 1060 Keydeck

※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

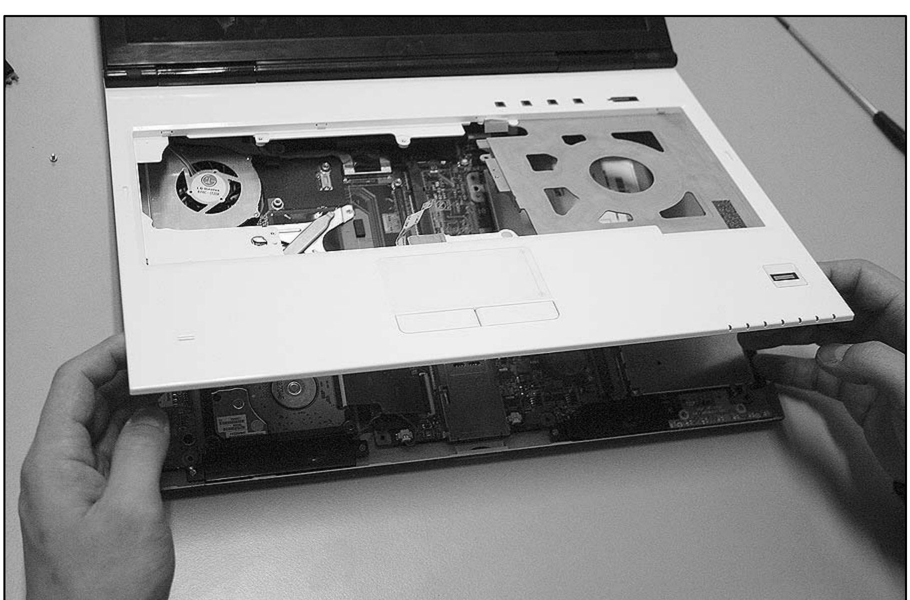
e. Memory(1050)

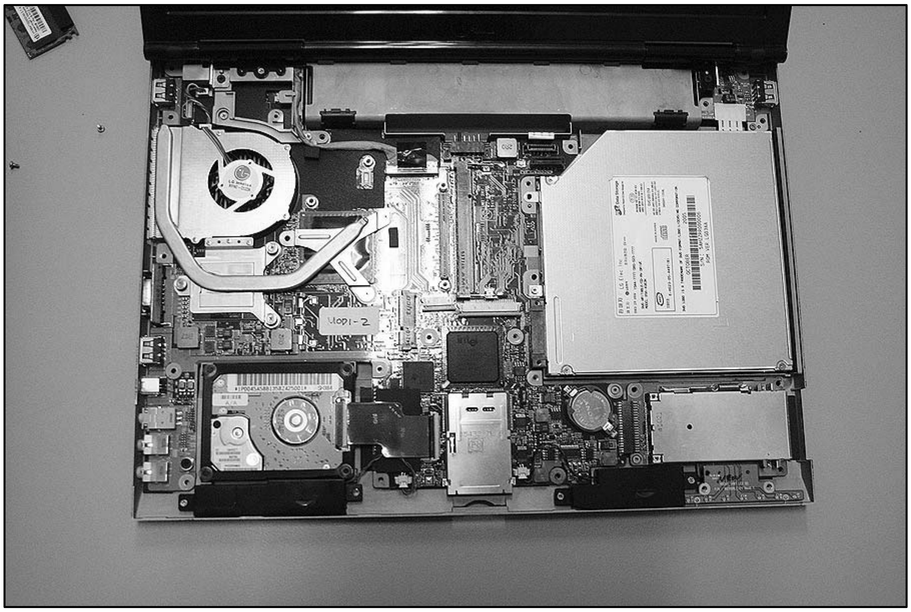
1. Remove 18 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4097A	M4.5 x L6.5	2
2	1SZZBA4063G	M4.5 x L6.0	16

2. Remove the Keydeck.





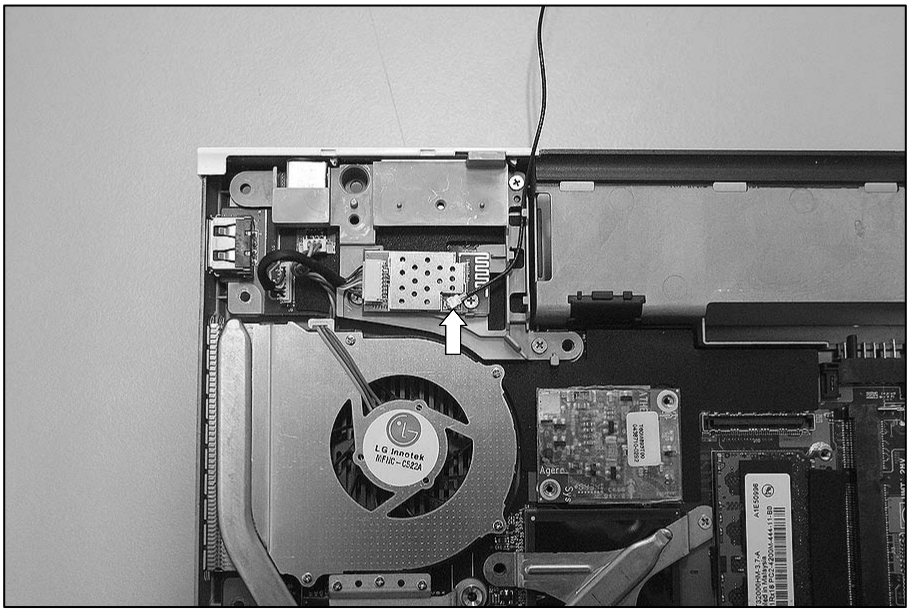
■ 1070 Bluetooth Module

※ Remove the following parts in order before replacing this part

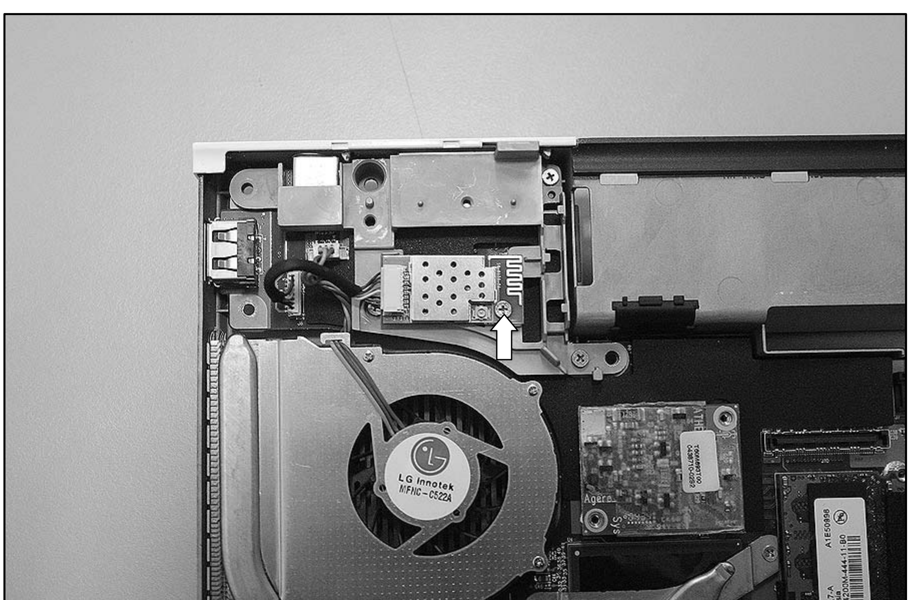
a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

e. Memory(1050) f. Keydeck(1060)

1. Disconnect the Bluetooth Antenna Cable.

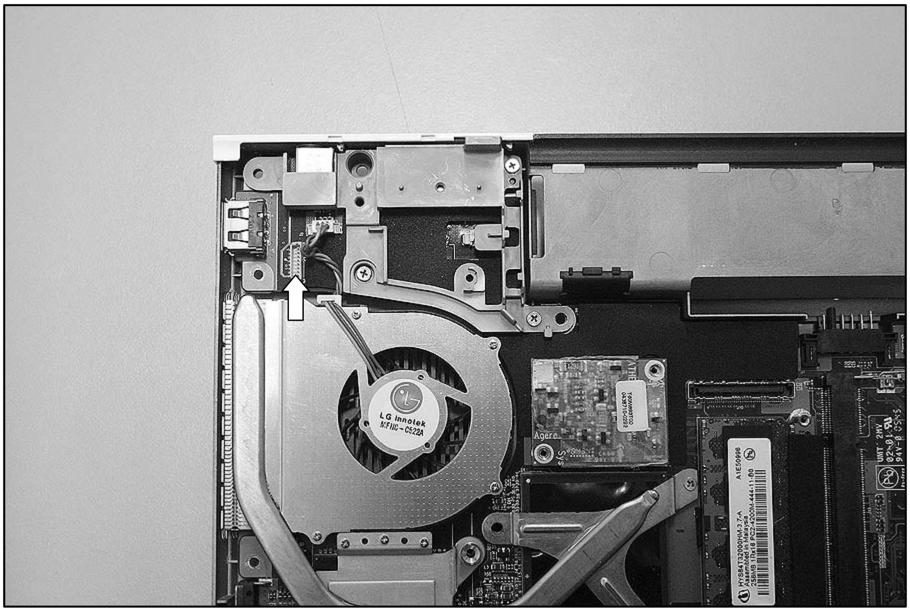


2. Remove a screw.



No.	FRU No.	Specification	Qty
1	1SZZBA4019L	M3.8 x L4.5	1

3. Disconnect the Bluetooth Connector, then remove the Bluetooth Module.



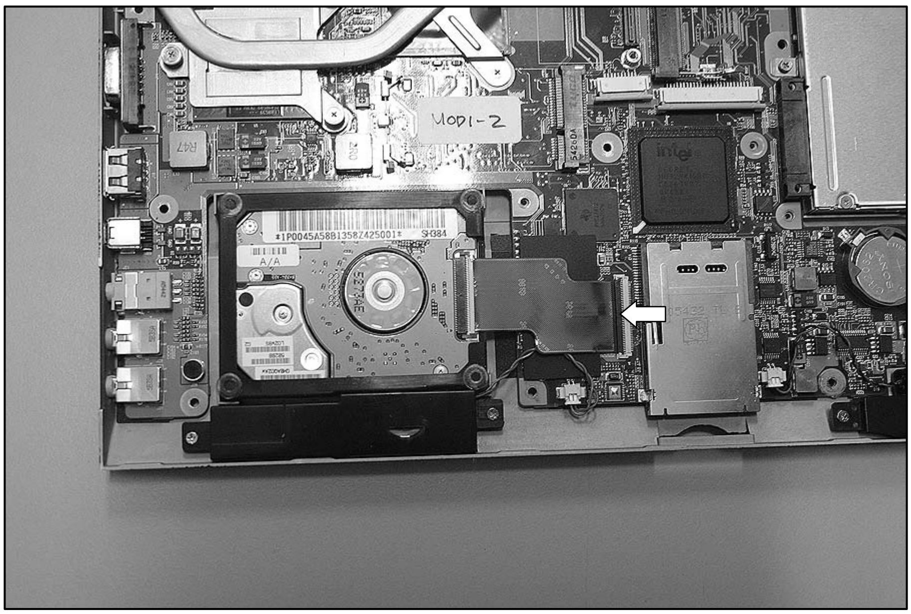
■ 1080 HDD

※ Remove the following parts in order before replacing this part

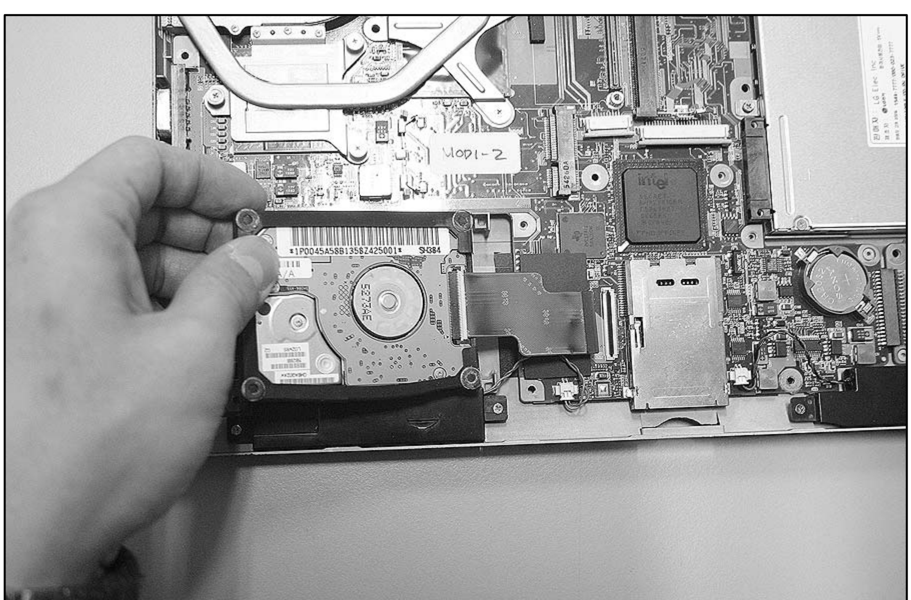
a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

e. Memory(1050) f. Keydeck(1060)

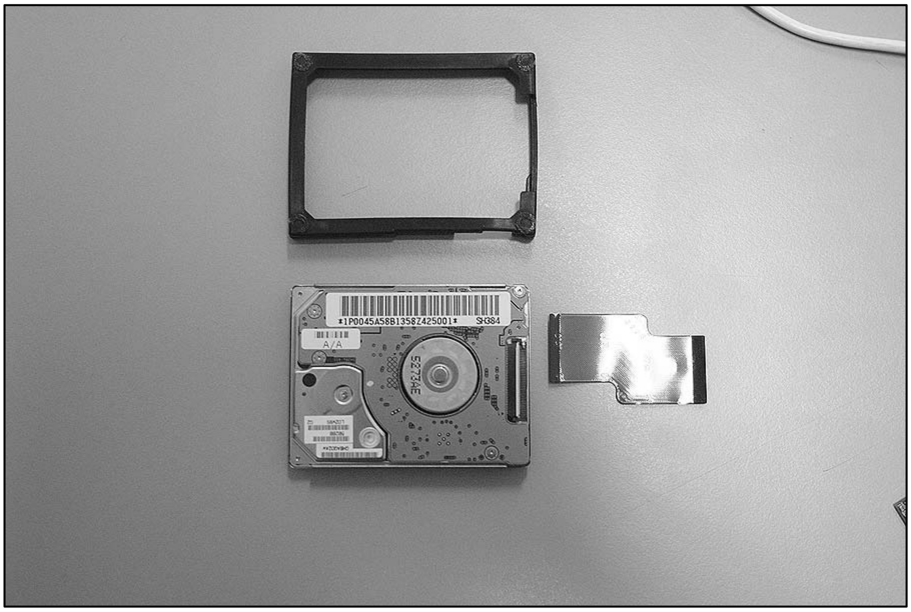
1. Disconnect the HDD Cable.



2. Remove the HDD.



3. Remove the Rubber cushion, then remove the HDD Cable.



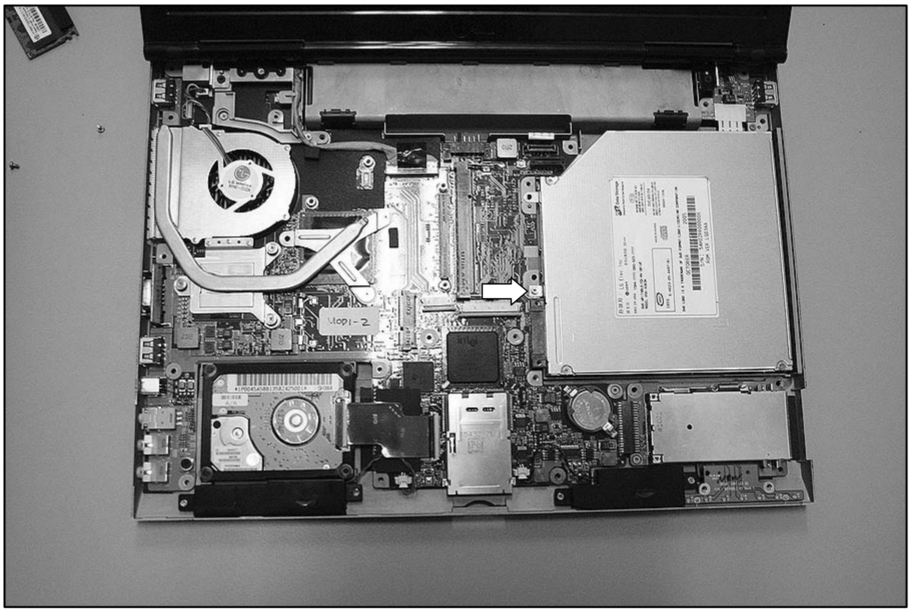
■ 1090 ODD

※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

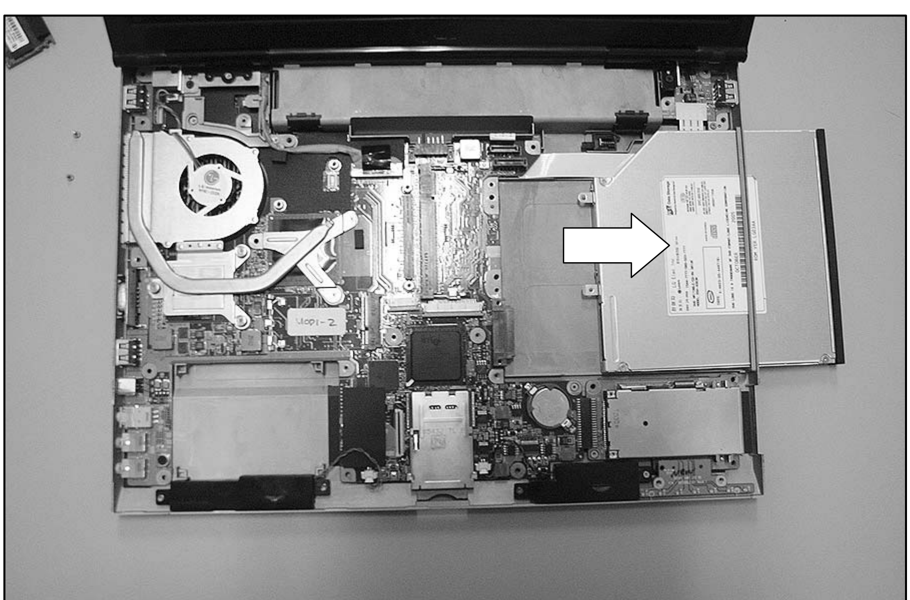
e. Memory(1050) f. Keydeck(1060)

1. Remove a screw.



No.	FRU No.	Specification	Qty
1	1SZZBA4023A	M2.0 x L3.5	1

2. Remove the ODD.



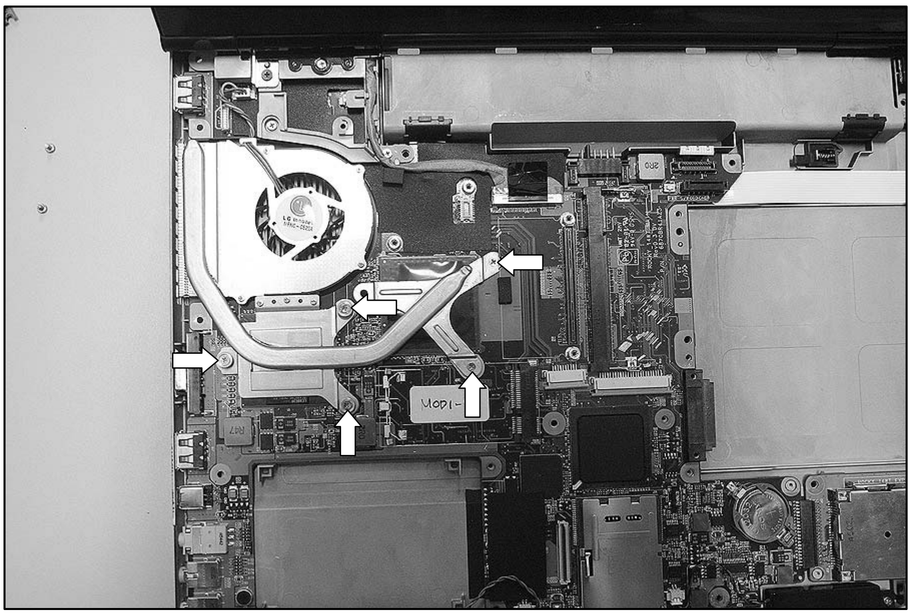
■ 1100 Fan Assembly

※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

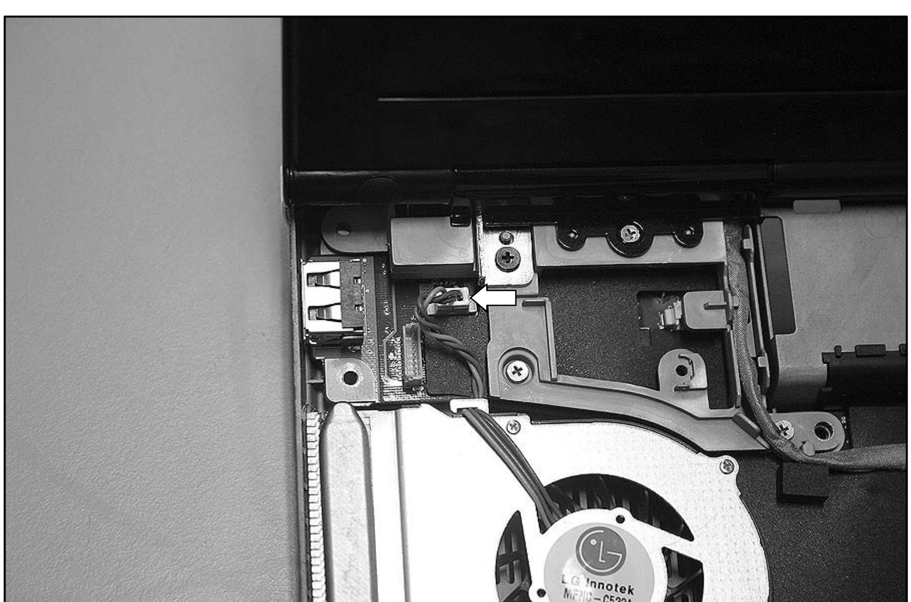
e. Memory(1050) f. Keydeck(1060)

1. Remove 5 screws.

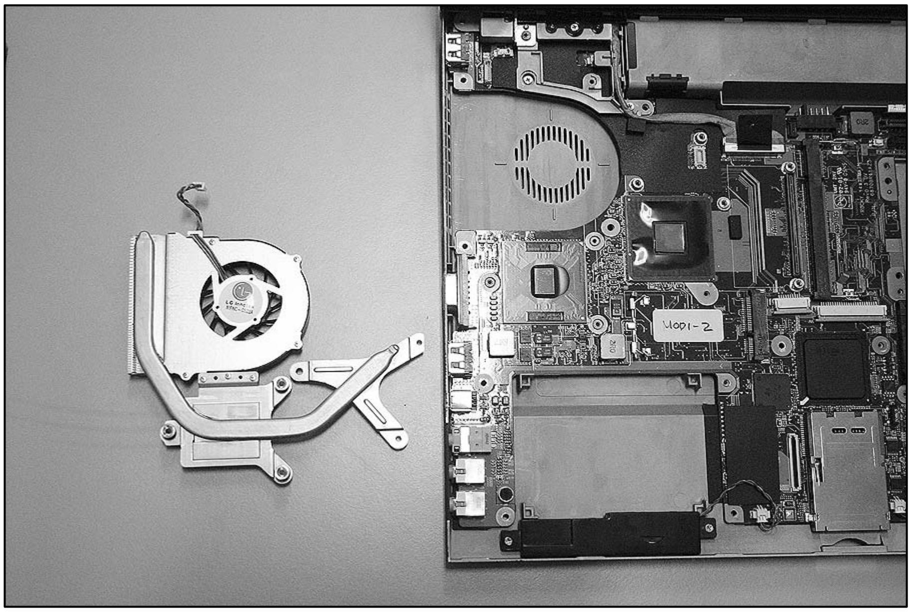


No.	FRU No.	Specification	Qty
1	1SZZBA4020C	M4.0 x L8.8	5

2. Disconnect the Fan Assembly Cable.



3. Remove the Fan Assembly.



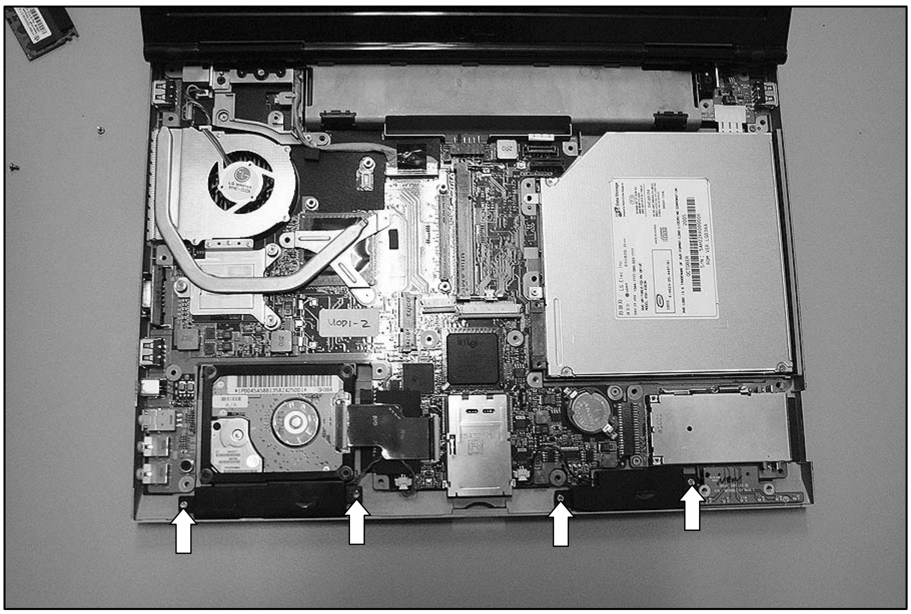
■ 1110 Speaker

※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

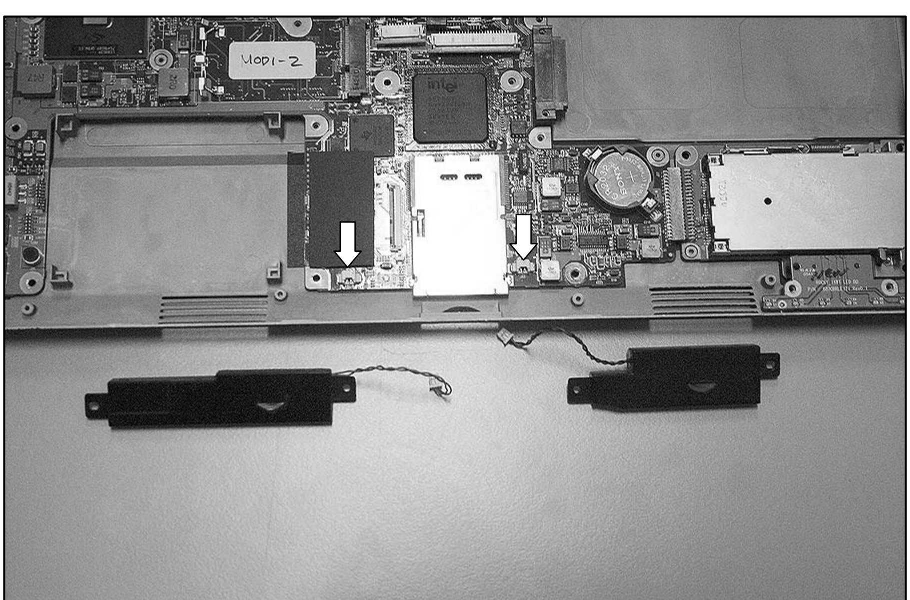
e. Memory(1050) f. Keydeck(1060)

1. Remove 4 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4023A	M2.0 x L3.5	4

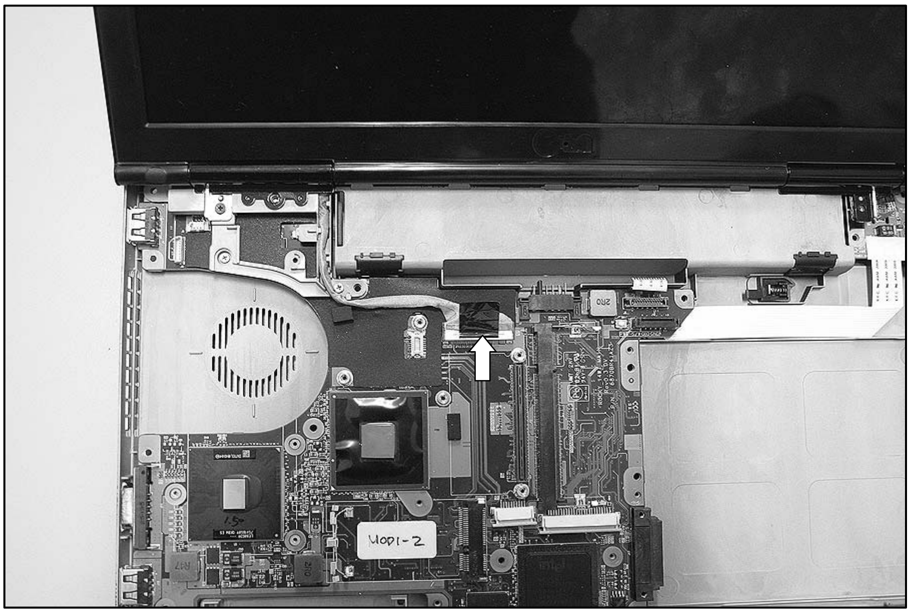
2. Disconnect the Speaker Cable, then remove the Speaker Module.



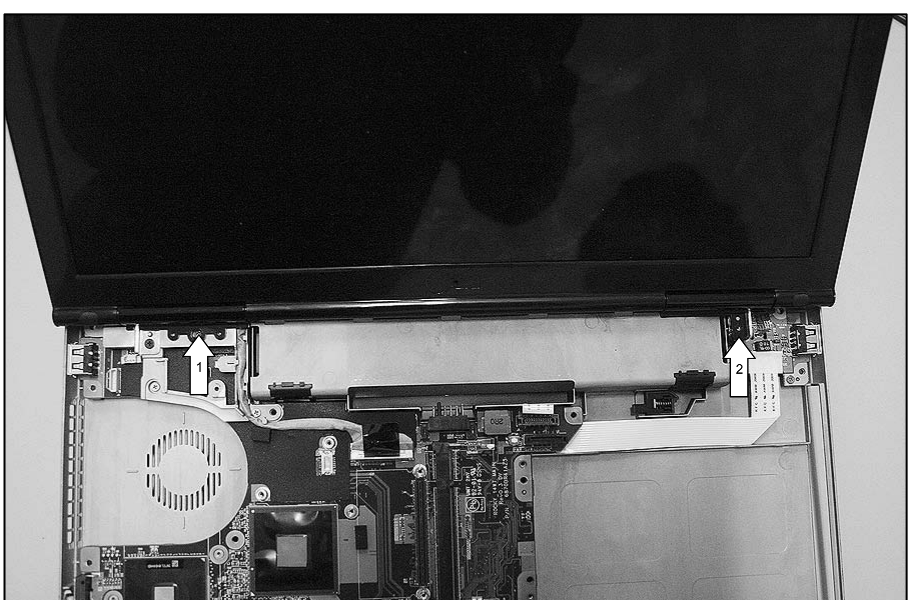
■ 1120 Display Module

※ Remove the following parts in order before replacing this part
a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)
e. Memory(1050) f. Keydeck(1060)

1. Disconnect the Display Connector.

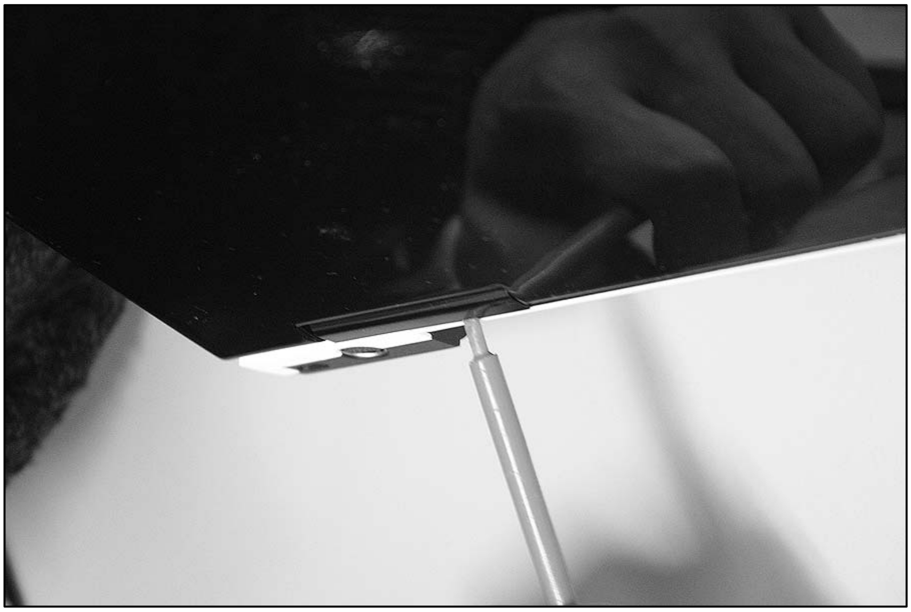


2. Remove 2 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4041A	M3.5 x L3.0	1
2	1SZZBA4097A	M4.5 × L6.5	1

3. Remove the Hinge Cap.

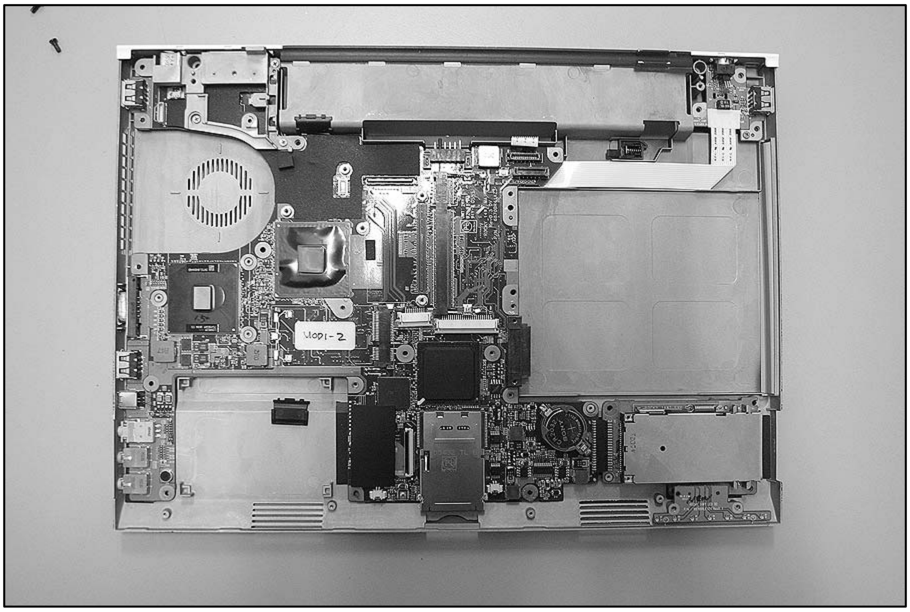


4. Remove 2 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4097A	M4.5 × L6.5	2

5. Remove the Display Module.



■ 1130 Main Board

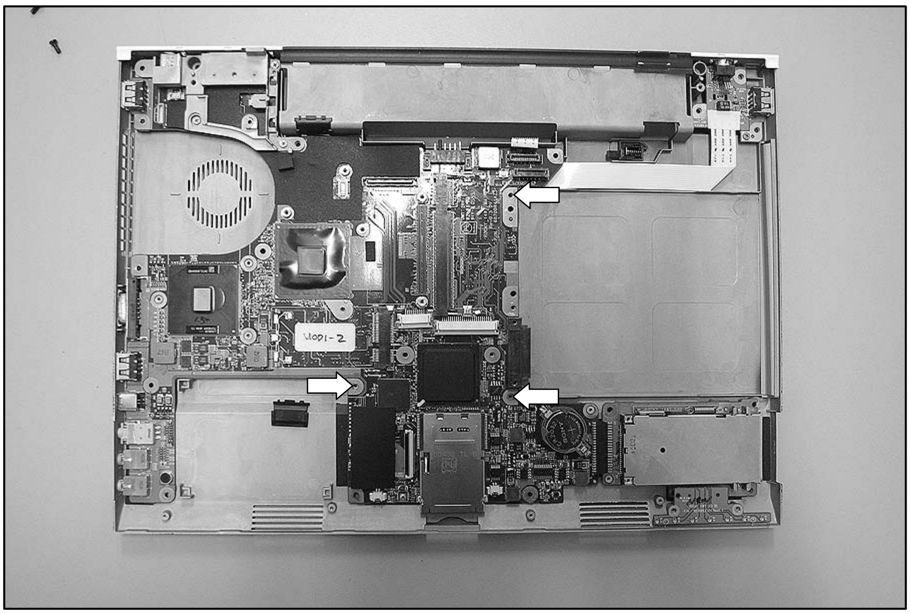
※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

e. Memory(1050) f. Keydeck(1060) g. Bluetooth Module(1070) h. HDD(1080) i. ODD(1090)

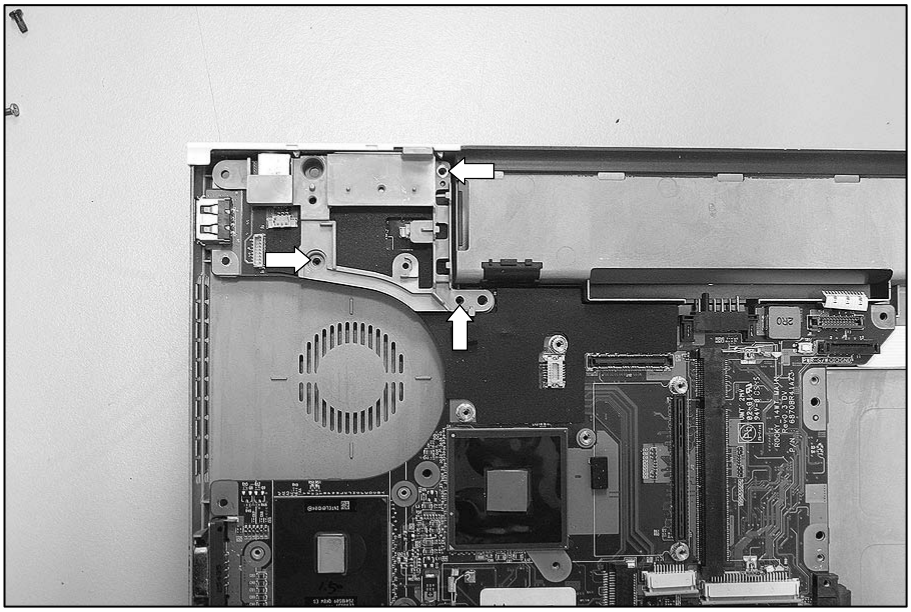
j. Fan Assembly(1100) k. Speakers(1110) l. Display Module(1120)

1. Remove 3 screws.



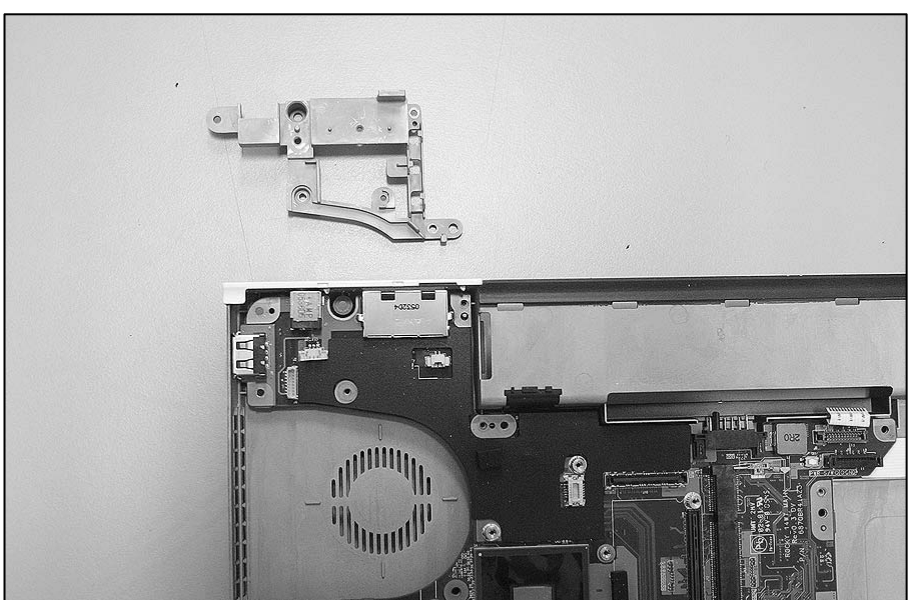
No.	FRU No.	Specification	Qty
1	1SZZBA4023A	M2.0 × L3.5	3

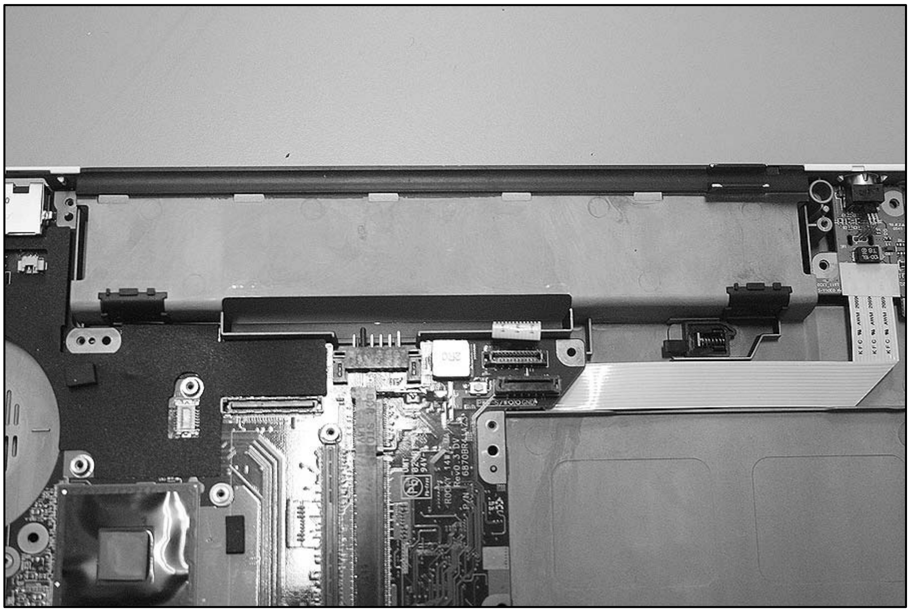
2. Remove 3 screws.



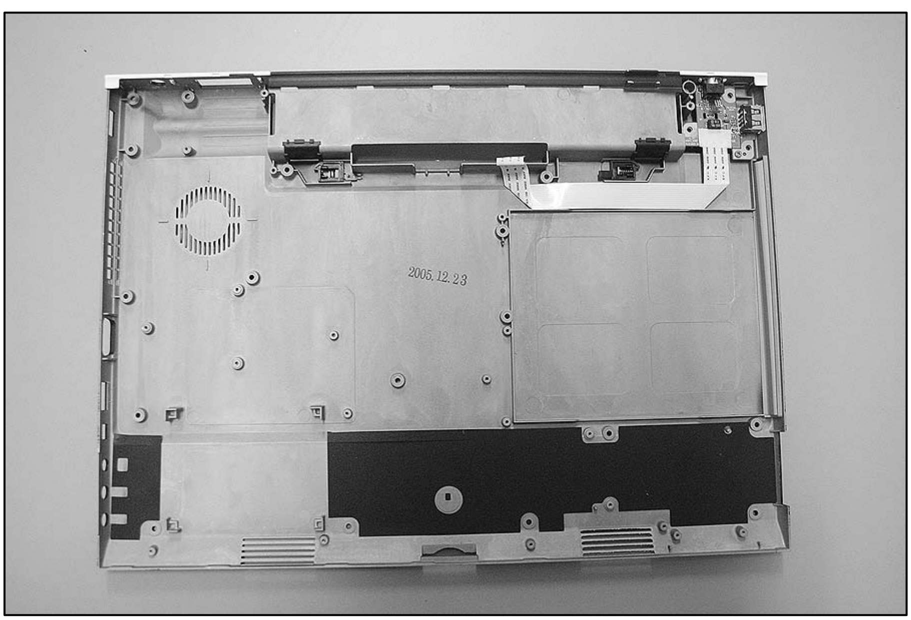
No.	FRU No.	Specification	Qty
1	1SZZBA4019L	M3.8 × L4.5	3

3. Remove the Frame.

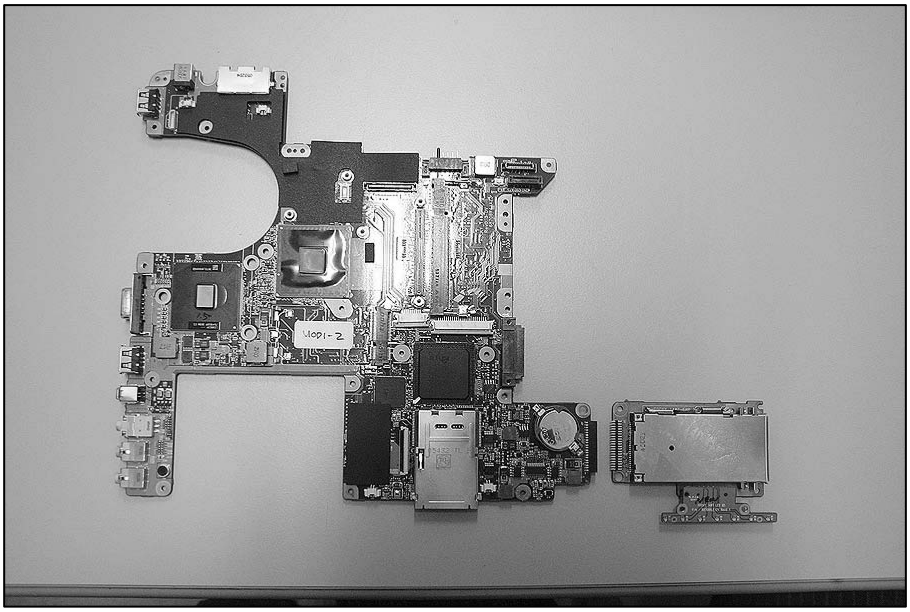


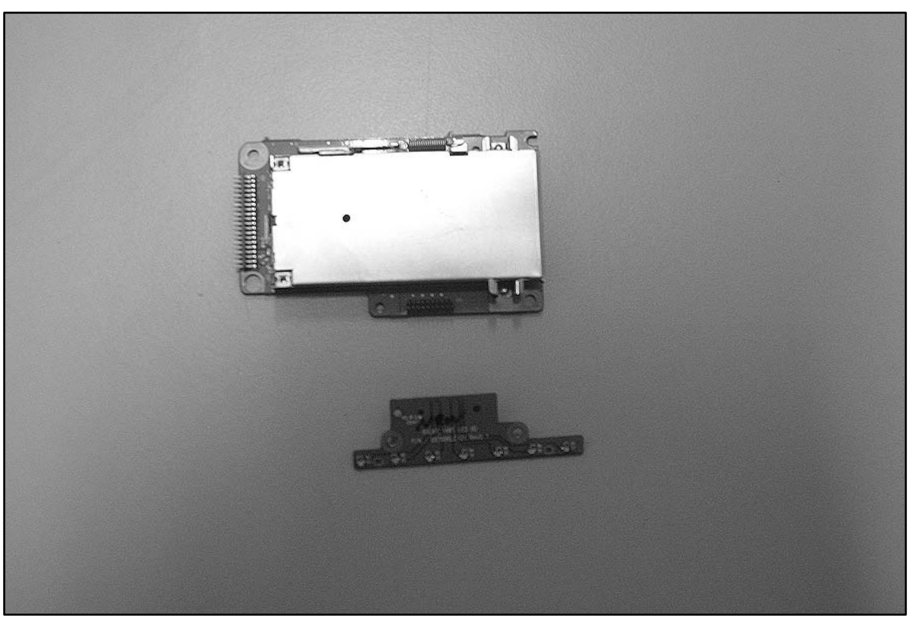


4. Remove the Main Board.

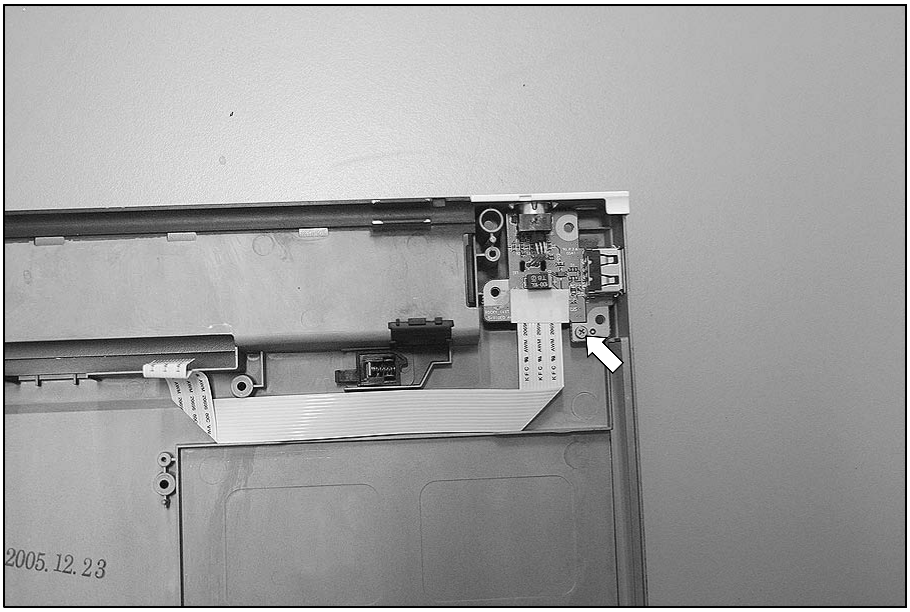


5. Remove the Express Card Sub Board.



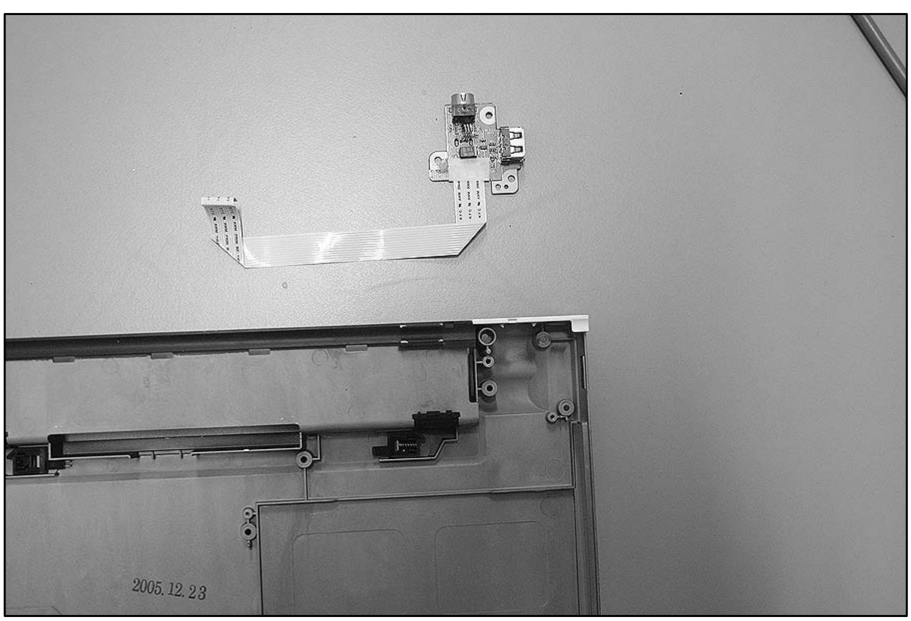


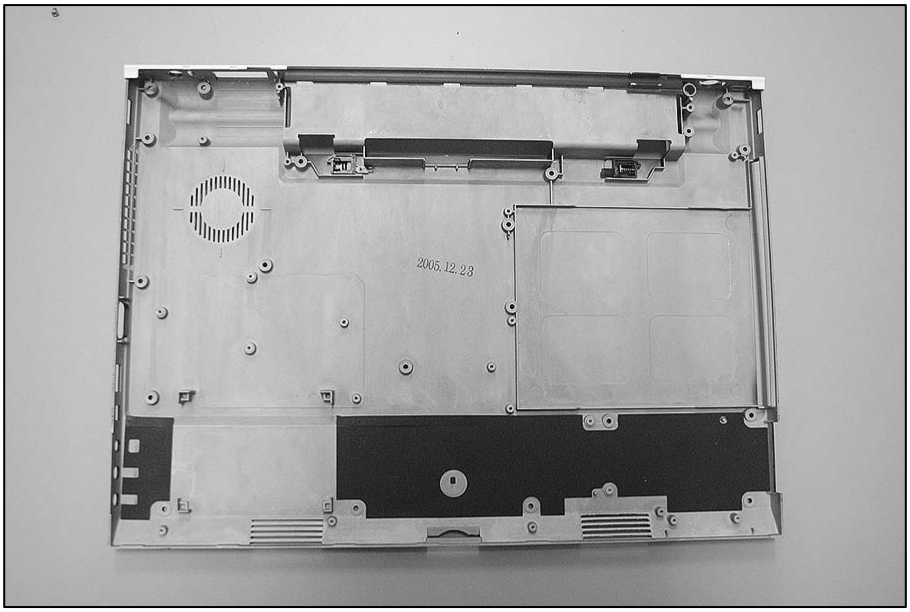
6. Remove a screw.



No.	FRU No.	Specification	Qty
1	1SZZBA4023A	M2.0 × L3.5	1

7. Remove the S-Video Sub Board.



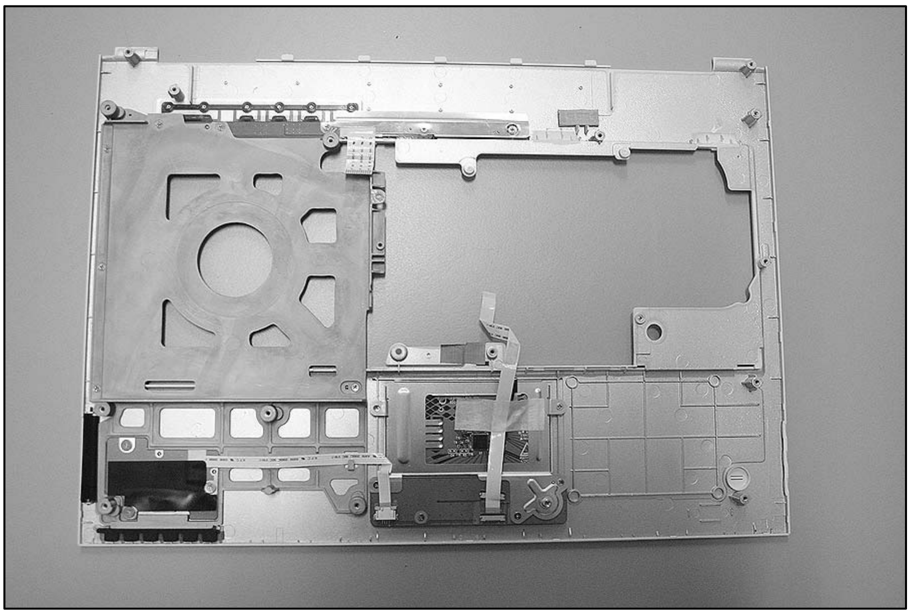

2005.12.23

■ 1140 LED Board Assembly

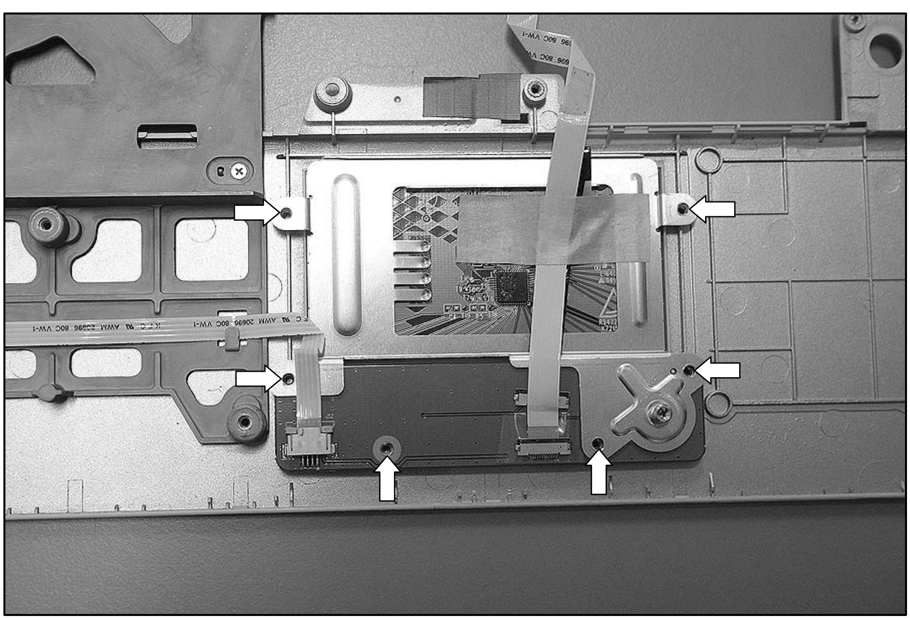
※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

e. Memory(1050) f. Keydeck(1060)

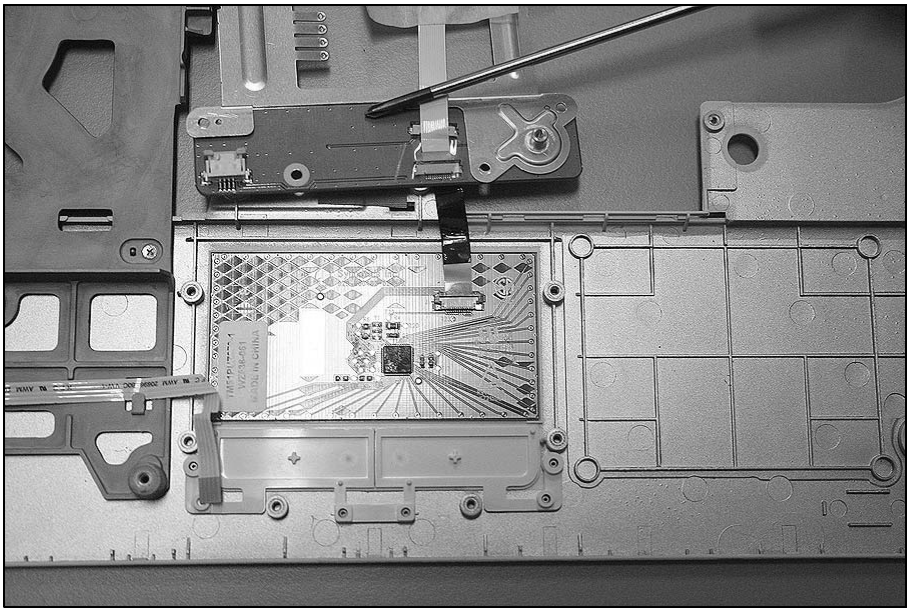


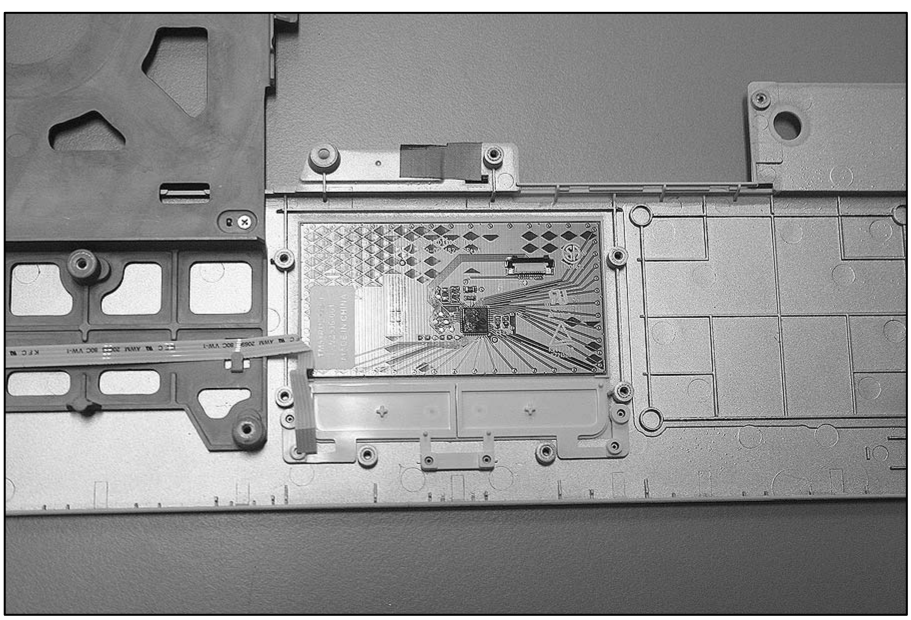
1. Remove 6 screws.

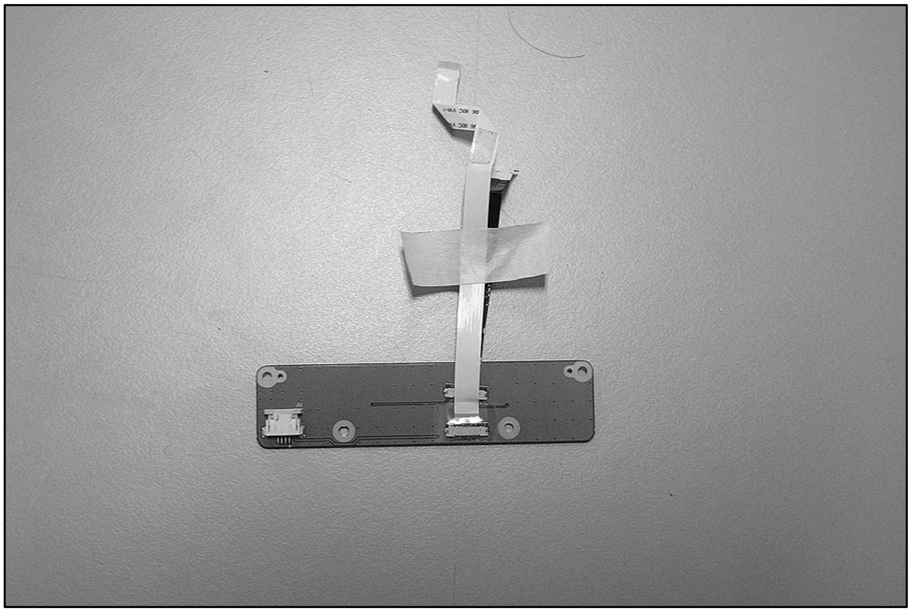


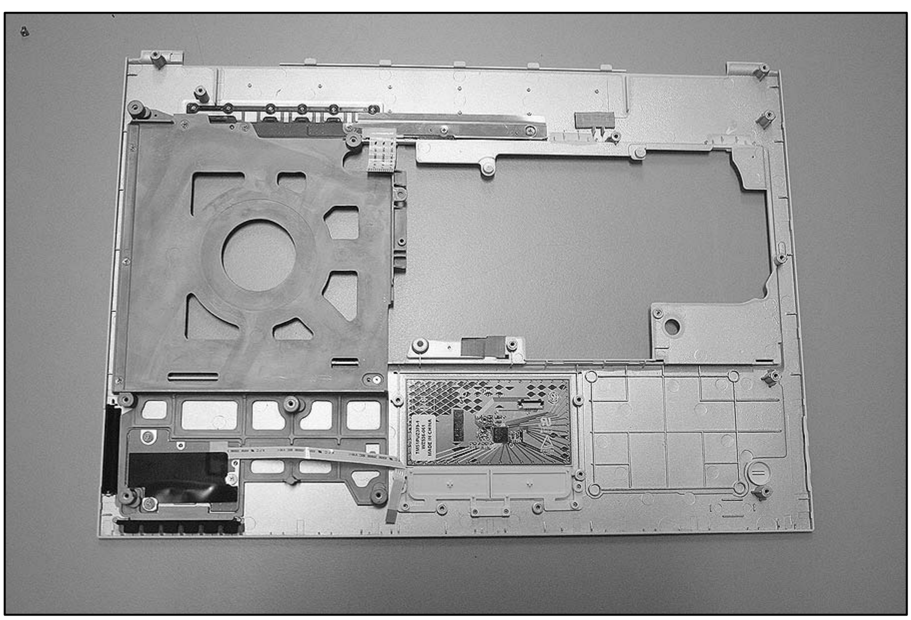
No.	FRU No.	Specification	Qty
1	1SZZBA4041A	M3.5 × L3.0	6

2. Remove the Touchpad Sub Board Assy.

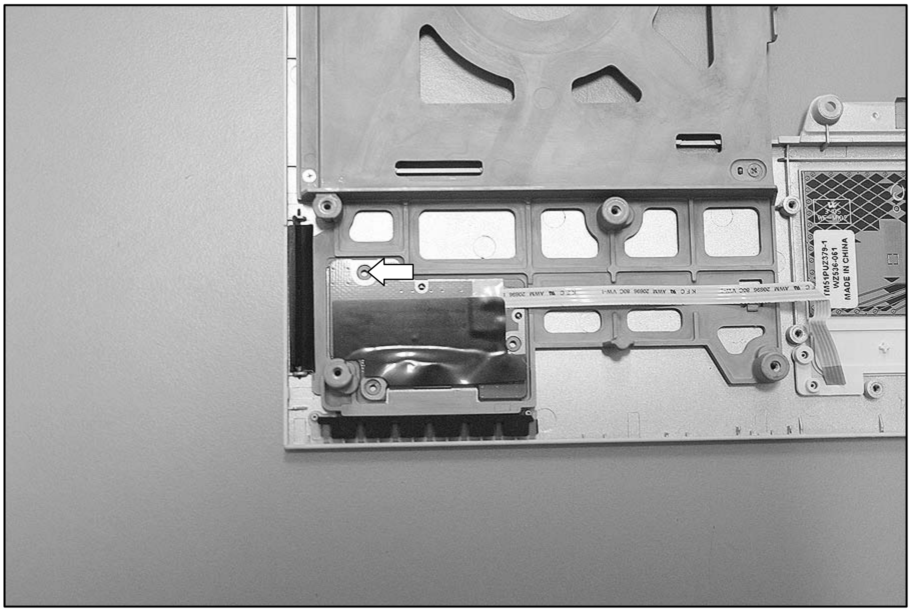






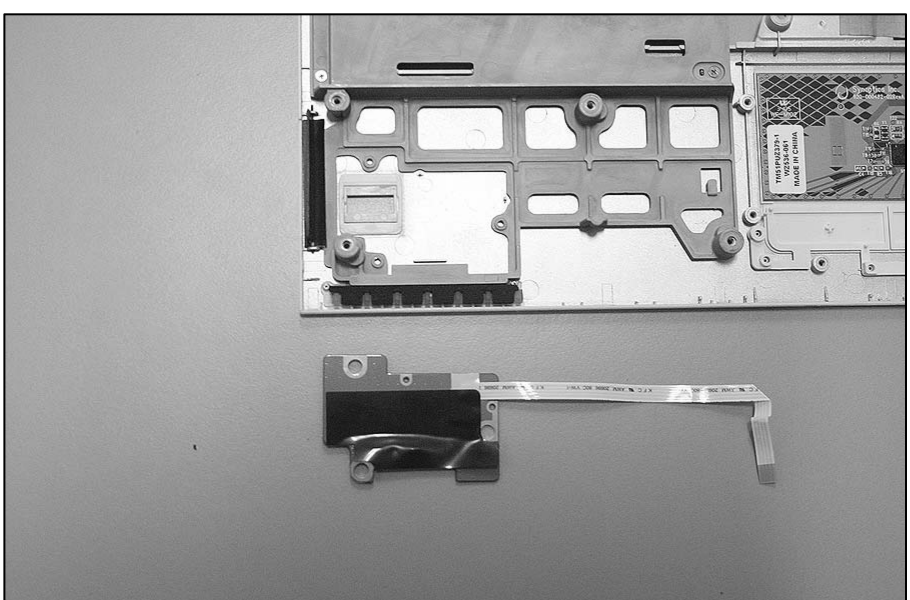


3. Remove a screw.

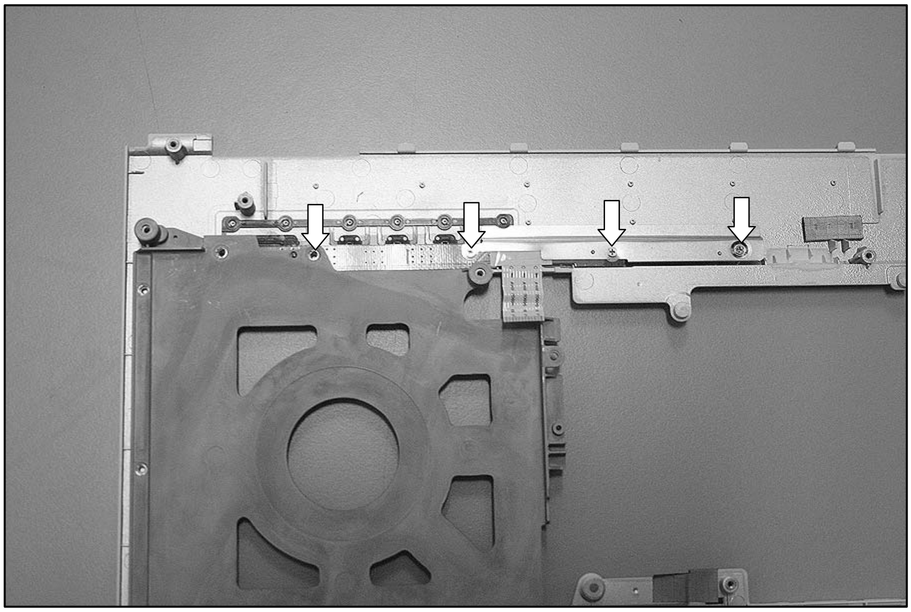


No.	FRU No.	Specification	Qty
1	1SZZBA4041E	M5.5 × L2.0	1

4. Remove the Finger Print Sub Board Assy.

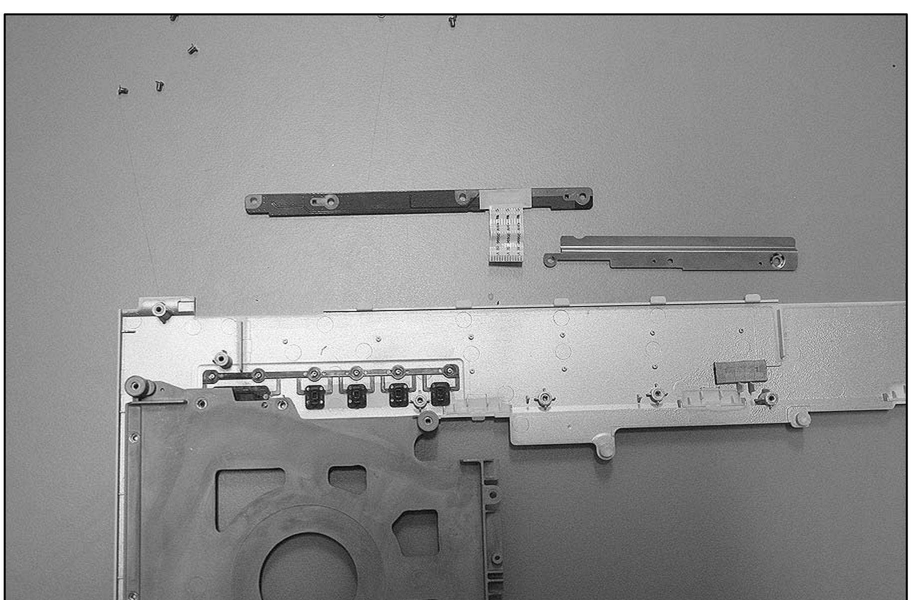


5. Remove 4 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4041A	M3.5 × L3.0	1

6. Remove the Switch Sub Board Assy.



■ 1150 Display Module Exploded View

※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. PCIE WLAN Card(1030) d. MDC Card(1040)

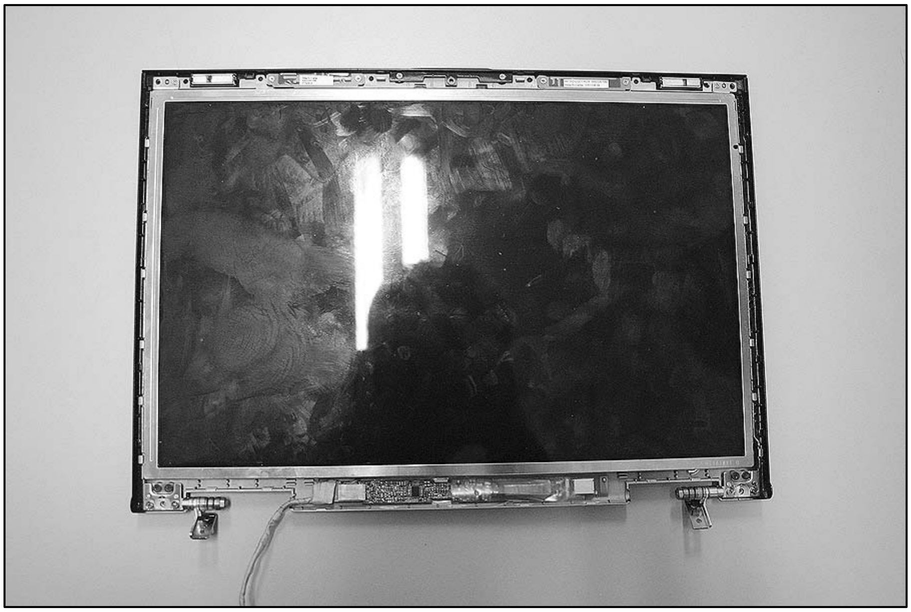
e. Memory(1050) f. Keydeck(1060) g. Bluetooth Module(1070) h. HDD(1080) i. ODD(1090)

j. Fan Assembly(1100) k. Speakers(1110) l. Display Module(1120)

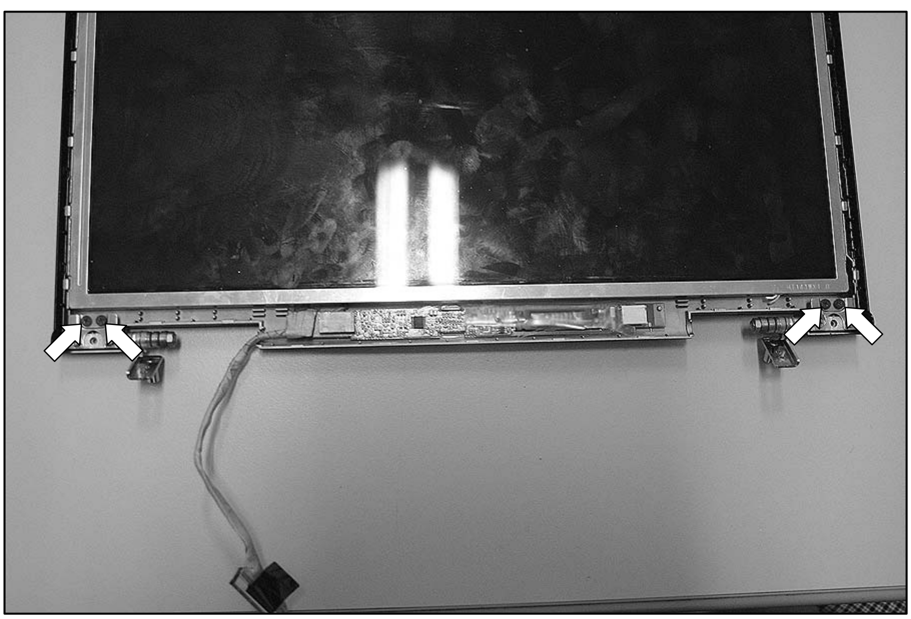
1. Using a knife, remove rubbers. Then remove 5 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4019L	M3.8 × L4.5	5



2. Remove 4 screws.

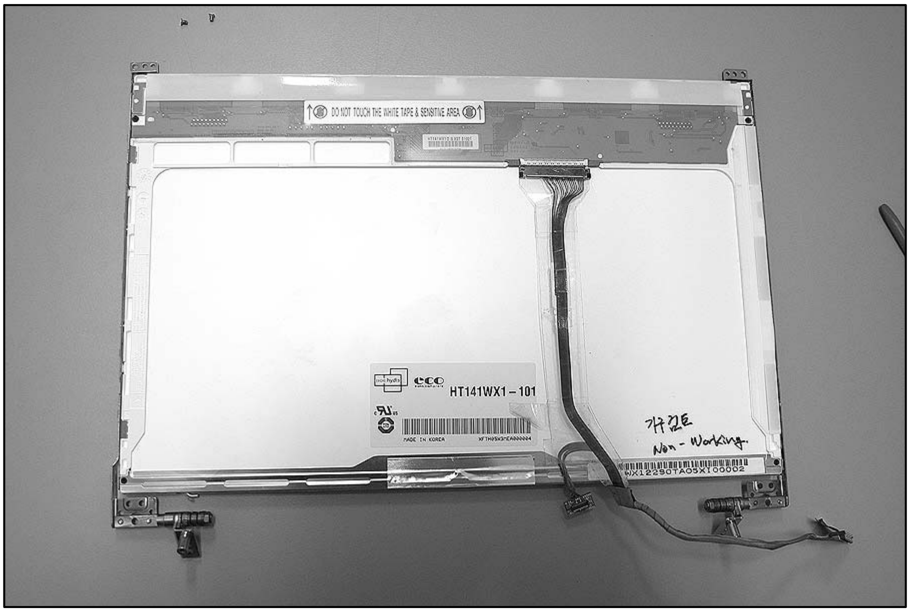


No.	FRU No.	Specification	Qty
1	1SZZBZ3002K	M4.5 × L3.5	4

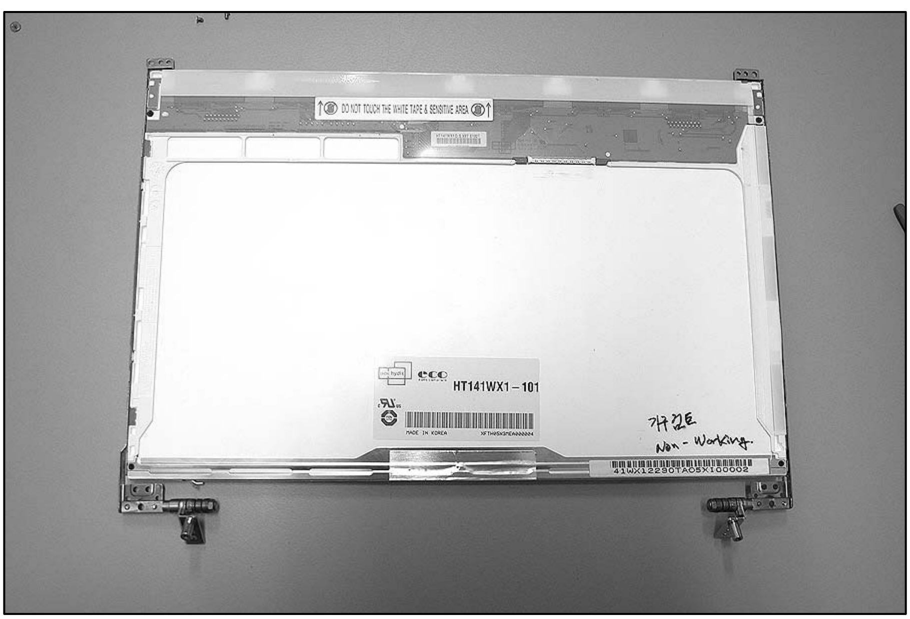


3. Remove the LCD.

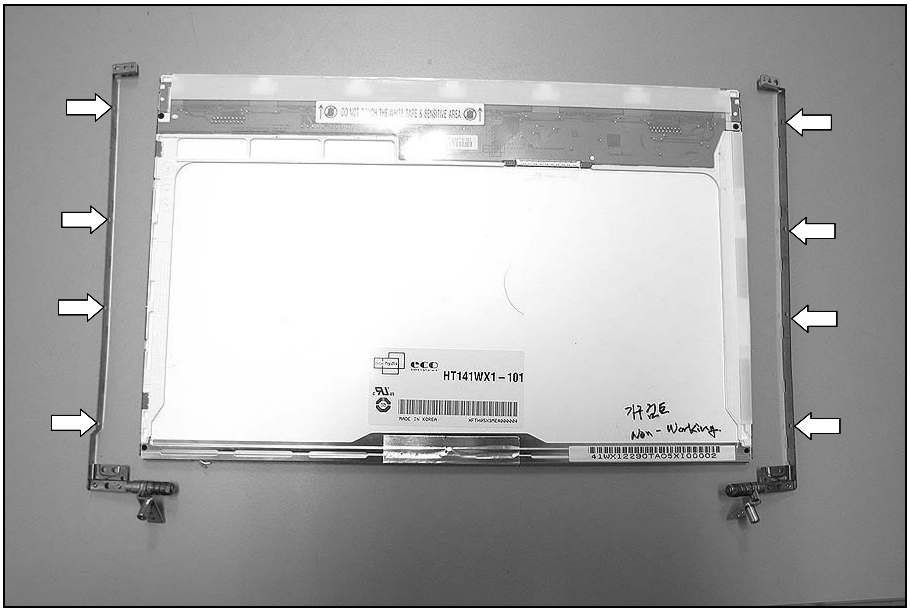




4. Disconnect the LCD Cable.

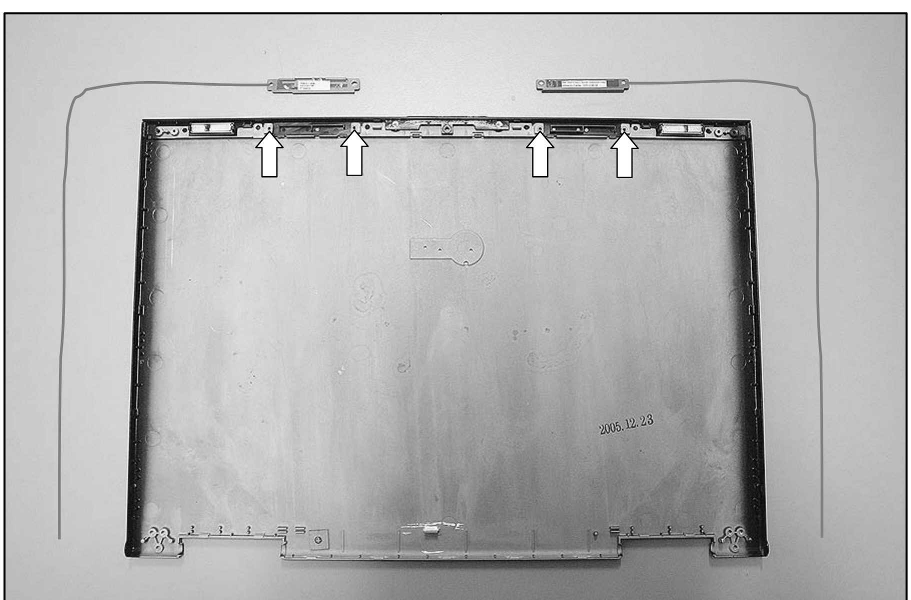


5. Remove 8 screws, then remove LCD Bracket.



No.	FRU No.	Specification	Qty
1	1SZZBA4041A	M3.5 × L3.0	8

6. Remove 4 screws, then remove WLAN Antenna.



No.	FRU No.	Specification	Qty
1	1SZZBA4041A	M3.5 × L3.0	4

7. Remove 2 screws, then remove the Display Handle.



No.	FRU No.	Specification	Qty
1	1SZZBA4041A	M3.5 × L3.0	2

8. Remove the Magnetic.



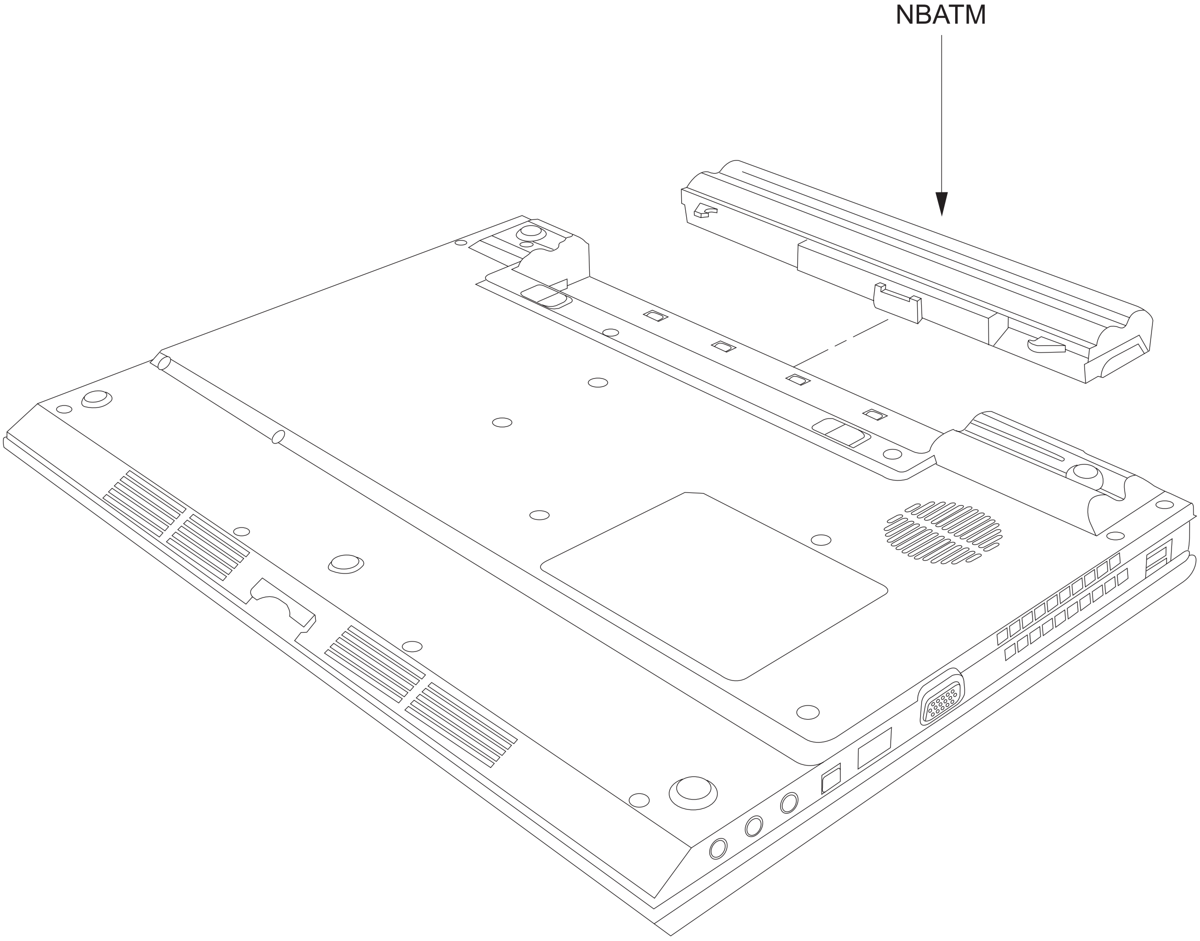
Chapter 6. Part lists

Location	P/N	Specifications	Remarks
NACA1	6708BA0036P	PA-1650-02GR LITEON 65W 18.5V/3.5A 3PIN WITHOUT PFC WINDRIVER , FOR DEBORAH, ROHS	
NANTL	5011B00045A	. HITACHI WIRELESS BT COMBO ROCKY14WT	
NANTR	5011B00046A	, HITACHI WIRELESS ANTENA AUX ROCKY14WT	
NANTR	5011B00050A	MAIN ANTENA HITACHI WIRELESS MAIN ROCKY 14WT	
NBATC	6910BLC3201	CR2032 SONY 3V 220MA/H COIN	
NBATM	6911B00143A	5200MAH 3S-2P SIMPLO LI-ION CYLINDERICAL ROCKY-15WP /14WT LGC CELL BLACK	
NBATM	6911B00137A	5200MAH 3S-2P LGC LI-ION CYLINDERICAL ROCKY-15WP /14WT LGC CELL BLACK	
NBATM	6911B00143B	5200MAH 3S-2P SIMPLO LI-ION CYLINDERICAL ROCKY-15WP /14WT SANYO BLACK	
NBLU1	6871B0T62AC	QBTM300 QCOM 4 LAYERS VER.2A2 BLUETOOTH2.0 EDR USB MODULE+IVT S/W	
NCABB	6851B09280A	BLUETOOTH CABLE AY 40L 8WIRE ROCKY 14T	
NCABH	6870BRHF1Z2	ROCKY-14WT 65*35 0.6MM 2LAYERS REV 0.2 YOUNG PUNG HDD FPC FOR TOSHIBA	
NCABH	6870BRHD1Z1	ROCKY-14WT 65*35 0.8MM 2LAYERS REV 0.1 YOUNG PUNG HDD FPC FOR HITACHI	
NCABL	6851B09285A	14.1W SXGA LCD CABLE AY 171*167 41 ROCKY 14T	
NCABL	6851B09284A	14.1W XGA LCD CABLE AY 171*167 31 ROCKY 14T	
NCABM	6851B34040A	CABLE ASSEMBLY / MODEM CABLE 70 2 WINDRIVER, MDC CABLE	
NCAPL	3550BM3244A	ROCKY-14WT PCABS HINGE LEFT COVER	
NCAPR	3550BM3245A	ROCKY-14WT PCABS HINGE COVER RIGHT	
NCSEB	3111B0TT41A	ROCKY-14WT BOTTOM ASSY	
NCSEF	3111B0TT32A	ROCKY-14WT DISPLAY FRONT ASSY	
NCSEK	3111B0TT40A	ROCKY-14WT KBD DECK ASSY	
NCSEK	3111B0TT40B	ROCKY-14WT KBD DECK ASSY W/O FINGER BOARD	
NCSER	3110BD0025A	ROCKY-14WT MG DISPLAY REAR XNOTE	
NCSER	3110BD0026A	ROCKY-14WT MG DISPLAY REAR LG LOGO	
NCSNF	4850BM4040A	ROCKY-14WT SILICON DISPLAY FRONT UPPER	
NCSNH	4850BP4089A	EVEREST CR HDD RUBBER-HITACHI	
NCSNL	4850BM4041A	ROCKY-14WT SILICON DISPLAY FRONT LOWER	
NCVRL	3650BD4001A	ROCKY-14WT OTHER DISPLAY HANDLE MG	
NCVRR	3551B09779A	ROCKY-14WT DISPLAY REAR ANTENA DECO ASSY	
NCVRS	3550BM4047D	ME 14 PCABS DUMMY SD MEMORYCARD NEW HUNTER	
NCVRT	3550BM3248A	ROCKY-14WT PCABS BATTERY COVER	
NFAN1	5901B09300A	FAN ASSY ROCKY 14WT THERMAL	
NFRML	3210BD3030A	ROCKY-14WT MG HINGE FRAME LEFT	

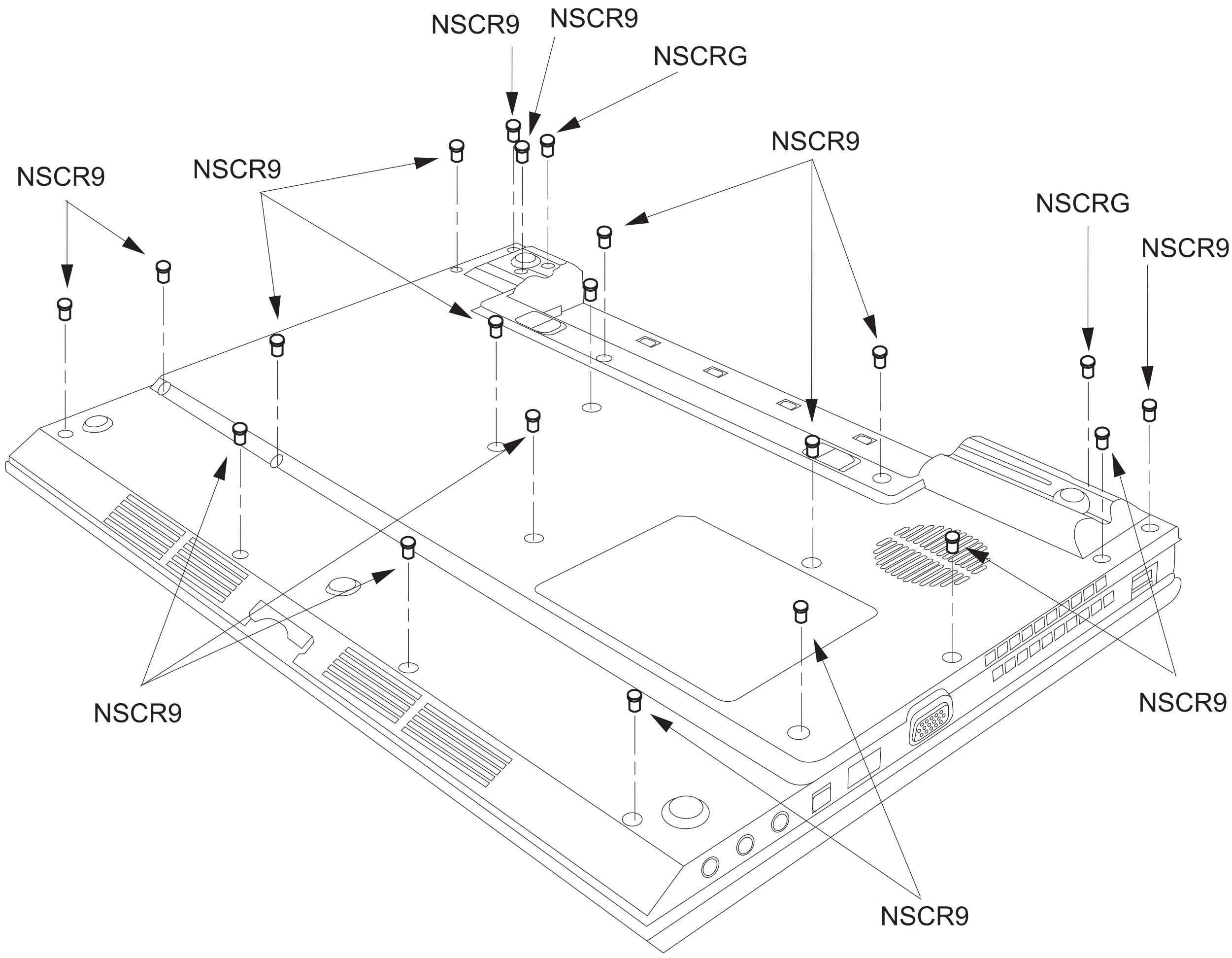
Location	P/N	Specifications	Remarks
NHDD1	6744A00012A	HTS426060G8CE00 HGST 60GB EIDE INNER NT	
NHDD1	6744A00008A	MK6008GAH TOSHIBA 60GB EIDE INNER NT	
NHDD1	6744A00007A	MK4008GAH TOSHIBA 40GB EIDE INNER NT	
NHDD1	6744A00011A	HTS426040G8CE00 HGST 40GB EIDE INNER NT	
NHNGL	4774BD2009A	ROCKY-14WT MG 7.0KGF-CM HINGE LEFT	
NHNGR	4774BD2010A	ROCKY-14WT MG 7.0KGF-CM HINGE RIGHT	
NKBD1	3823B00330A	KOREA ROCKY 14T OKI	
NKBD1	3823B00331A	ENGLISH ROCKY14T OKI	
NKBD1	3823B00332A	US INTER ROCKY 14T OKI	
NKBD1	3823B00333A	RUSSIAN ROCKY 14T OKI	
NKBD1	3823B00334A	TAIWAN ROCKY 14T OKI	
NKBD1	3823B00335A	ARABIC ROCKY 14T OKI	
NKBD1	3823B00336A	SPANISH ROCKY 14T OKI	
NKBD1	3823B00337A	HEBREW ROCKY 14T OKI	
NKBD1	3823B00338A	FRENCH ROCKY 14T OKI	
NKBD1	3823B00339A	PORTUGESE ROCKY 14T OKI	
NKBD1	3823B00340A	NORWAY ROCKY 14T OKI	
NKBD1	3823B00341A	SWEDEN/FINLAND ROCKY 14T OKI	
NKBD1	3823B00342A	DENMARK ROCKY 14T OKI	
NKBD1	3823B00343A	CANADIAN FRENCH ROCKY 14T OKI	
NKBD1	3823B00344A	TURKEY ROCKY 14T OKI	
NKBD1	3823B00345A	ITALY ROCKY 14T OKI	
NKBD1	3823B00346A	HUNGARY ROCKY 14T OKI	
NKBD1	3823B00347A	GERMAN ROCKY 14T OKI	
NKBD1	3823B00348A	BRAZIL ROCKY 14T OKI	
NLAN1	6718M000033	WM3945AGRWGEN INTEL IEEE 802.11ABG STANDARD PROTOCOL 54M REV2.03 PCIE MINICARD FORM FACTOR	
NLCD1	6304FLP340B	LP141WX1-TL03 LG PHILIPS TFT COLOR 14.1INCH WXGA(1280X800) 200NITS ANTI-GLARE	
NLCD1	6304FLP346A	LP141WP1-TLB3 LG PHILPS TFT COLOR 14.1 INCH(1440X900) 220NITS GLARE	
NLCD1	6304FBH014A	HT141WX1-101 BOE-HYDIS TFT COLOR 14.1 INCH WXGA(1280X800) 185NITS GLARE	
NLCD1	6304FLP340A	LP141WX1-TL02 LG PHILPS TFT COLOR 14.1 INCH WXGA(1280X800) 200NITS GLARE	

Location	P/N	Specifications	Remarks
NMDM1	6871BG869AB	MA560-3 LF(LEAD FREE) QCOM 2 LAYERS 1A CHIP REV.G MDC1.5 FORM FACTOR V.92 MODEM CARD	
NMEM1	0IMMR00186A	HYS64T64020HM-3S-A INFINEON 214P MICRO-DIMM BULK 512MB 64MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00185A	HYS64T32000HM-3S-A INFINEON 214P MICRO-DIMM BULK 256MB 32MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00183A	HYS64T32000HM-3.7-A INFINEON 214PIN MICRO SODIMM 256MB 32MX64 533MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00184A	HYS64T64020HM-3.7-A INFINEON 214PIN MICRO SODIMM 512MB 64MX64 533MHZ DDR2 SDRAM WITH 64MX16	
NMEM1	0IMMR00176A	HYS64T32000HDL-3S-B INFINEON 200P SODIMM BULK 256MB 32MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00177A	M470T3354CZ3-CE6 SAMSUNG ELECTRONICS 200P SODIMM BULK 256MB 32MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00175A	HYS64T64020HDL-3S-B INFINEON 200P SODIMM BULK 512MB 64MX64 667MHZ DDR2 SDRAM WITH 32MX16 UOM EA	
NMEM1	0IMMR00178A	M470T6554CZ3-CE6 SAMSUNG ELECTRONICS 200P SODIMM BULK 512MB 64MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMLB1	6871BR44AP1	.... LGE 8 LAYERS REV 0.1 ROCKY 14WT MAIN B/D ASYS	
NMLB1	6871BR41AP1	. LGE 8 LAYERS REV 0.1 ROCKY 14WT MAIN B/D ASSY	
NMLB1	6871BR43AP1	... LGE 8 LAYERS REV 0.1 ROCKY 14WT MAIN B/D ASSY	
NMLB1	6871BR42AP1	.. LGE 8 LAYERS REV 0.1 ROCKY 14WT MAIN B/D ASSY	
NMLB1	6871BR42AA1	. LGE 8 LAYERS REV 1.0 ROCKY 14WT MAIN B/D ASSY 1.66G GBIT NO TPM	
NMLB1	6871BR43AA1	. LGE 8 LAYERS REV 1.0 ROCKY 14WT MAIN B/D ASSY 1.5G 10/100 TPM	
NMLB1	6871BR44AA1	. LGE 8 LAYERS REV 1.0 ROCKY 14WT MAIN B/D ASSY 1.66G GBIT TPM	
NMLB1	6871BR41AA1	. LGE 8 LAYERS REV 1.0 ROCKY 14WT MAIN B/D ASSY 1.5G 10/100 NO TPM	
NNVE1	6708BI0098A	KUBNKM116A ALPS GENERAL SXGA+ LGP ROCKY-15F ,14WT,15W	
NNVE1	6708BI0098C	KUBNKM116A ALPS GENERAL SXGA+ LGP ROCKY-14WT 14WT	
NODD1	2026B40100A	GSA-4083N HLDS 8X 8X 24X 24X 10X 2X 2X 2.4X 2.4X 2X 24X NOTE BOOK SUPERMULTI FOR ROCKY 14WT	
NODD1	2029B40100A	GCC-4246N HLDS 8X 16X 8X 24X 9.5MM	
NPCD1	6410BM21002	PT8XXK9KB0A-033 LONGWELL KS 1000MM 3P CONN W/VELCRO TIE BLACK	
NPLTL	3301B00570B	DISPALY ROCKY 14WT MAGNETIC ASSY WITH TAPE	

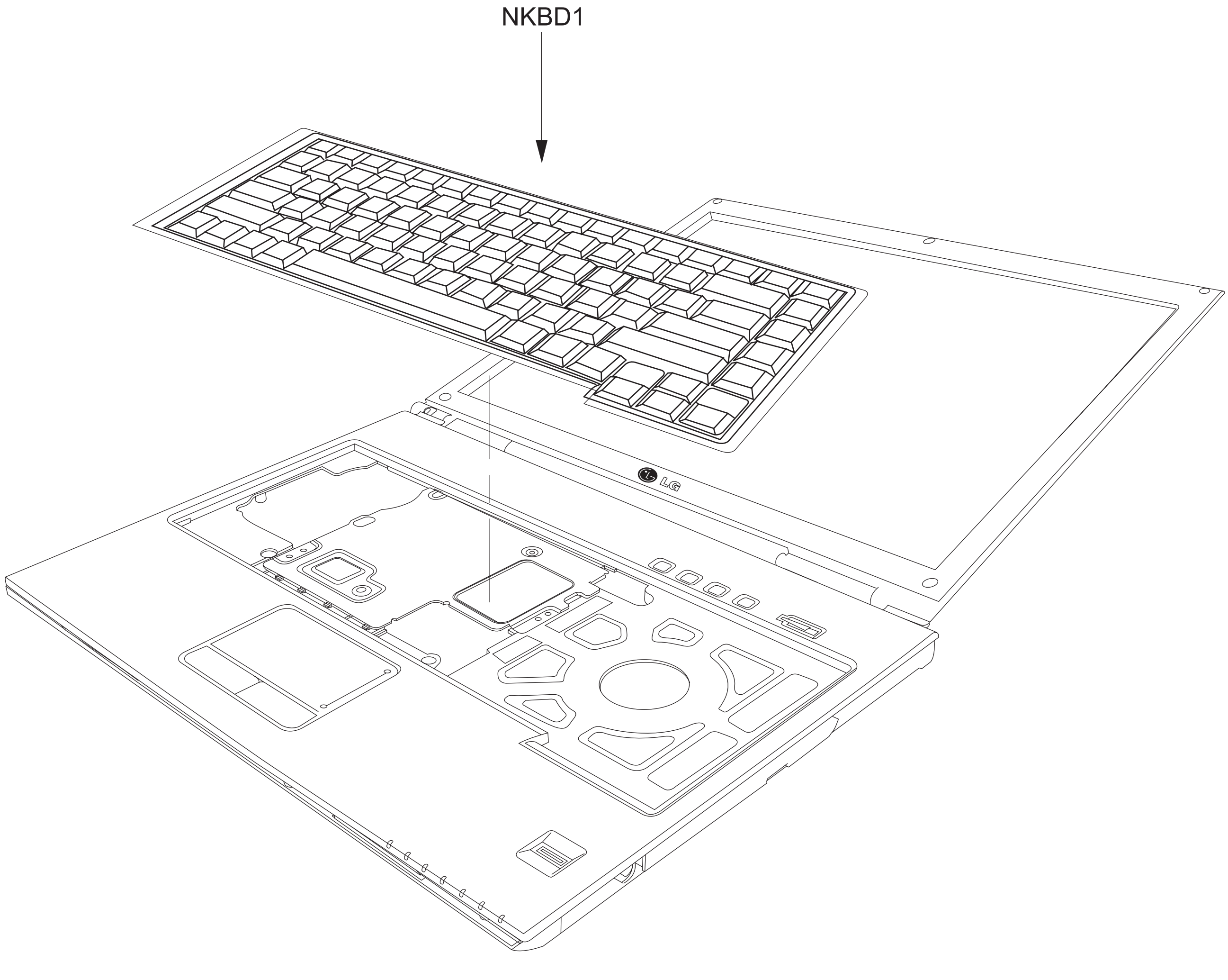
Location	P/N	Specifications	Remarks
NPLTM	3301B30005A	PLATE MEMORY COVER ASSY ROCKY 14WT .	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NSCR3	1SZZBA4080F	+ D4.5 L4.5MM SWRH4 M2.5 H1.0 SILVER HUNTER TIP #0	
NSCR5	1SZZBA4041E	+ D5.5 L2.0MM SWRH4 FINGER PRINT FIX SILVER ROCKY 14WT #0 TIP	
NSCR6	1SZZBA4019L	+ D3.8 L4.5MM SWRH4 PCB ETC.. FIX YL HUNTER WIDE M2 ROHS	
NSCR7	1SZZBA4023A	+ D2.0 L 3.5 SWRH4 SYDNEY SYSTEM SILVER S3-PJT PLATED NICKEL	
NSCR9	1SZZBA4063G	+ D4.5 L6.0MM SWRH4 / [BK] ROCKY 14WT BOTTOM BK ROCKY 142T M2 ROUND	
NSCRG	1SZZBA4097A	+ D4.5 L6.5MM SWRH4 M2.5 H1.0 BK HUNTER TIP NO.0	
NSCRG	1SZZBA4097B	+ D4.5 L6.5MM SWRH4 M2.5 H1.0 BK HUNTER TIP NO.0 ROHS	
NSCRH	1SZZBZ4020C	+ D4.0 L8.8MM SWRH4 FAN ASSEMBLY SILVER ROCKY 14WT L(8.0) WITH HEAD LENGTH TIP#0	
NSCRJ	1SZZBZ3002K	+ D4.5 L3.5MM SWRH4 . BK HUNTER ROHS	
NSETF	3858BP4548B	. ROCKY-15W BADGE LOGO, LG DISPLAY FRONT BLACK	
NSETR	3858BP4546B	N ROCKY-15F LOGO BADGE XNOTE BLACK	
NSPKL	3551B09771A	ROCKY-14WT SPEAKER LEFT	
NSPKR	3551B09772A	ROCKY-14WT SPEAKER RIGHT	
NSUBB	6871BRSW1Z1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT SWITCH SUB B/D ASSY	
NSUBC	6871BREX1A1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT EXPRESS CARD SUB B/D ASSY	
NSUBF	6871BRFP1Z1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT FINGERPRINT SUB B/D ASSY	
NSUBF	6871BRFP1A1	ROCKY T WIMTEC 2 LAYERS REV 1.0 ROCKY WT FINGERPRINT SUB B/D ASSY	
NSUBL	6871BRLE1Z1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT LED SUB B/D ASSY	
NSUBL	6871BRLE1A1	ROCKY T WIMTEC 2 LAYERS REV 1.0 ROCKY WT LED SUB B/D ASSY	
NSUBS	6871BRSV1Z2	ROCKY T WIMTEC 2 LAYERS REV 0.2 ROCKY WT S-VIDEO SUB B/D ASSY	
NSUBT	6871BRTP1Z1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT TOUCHPAD SUB B/D ASSY	



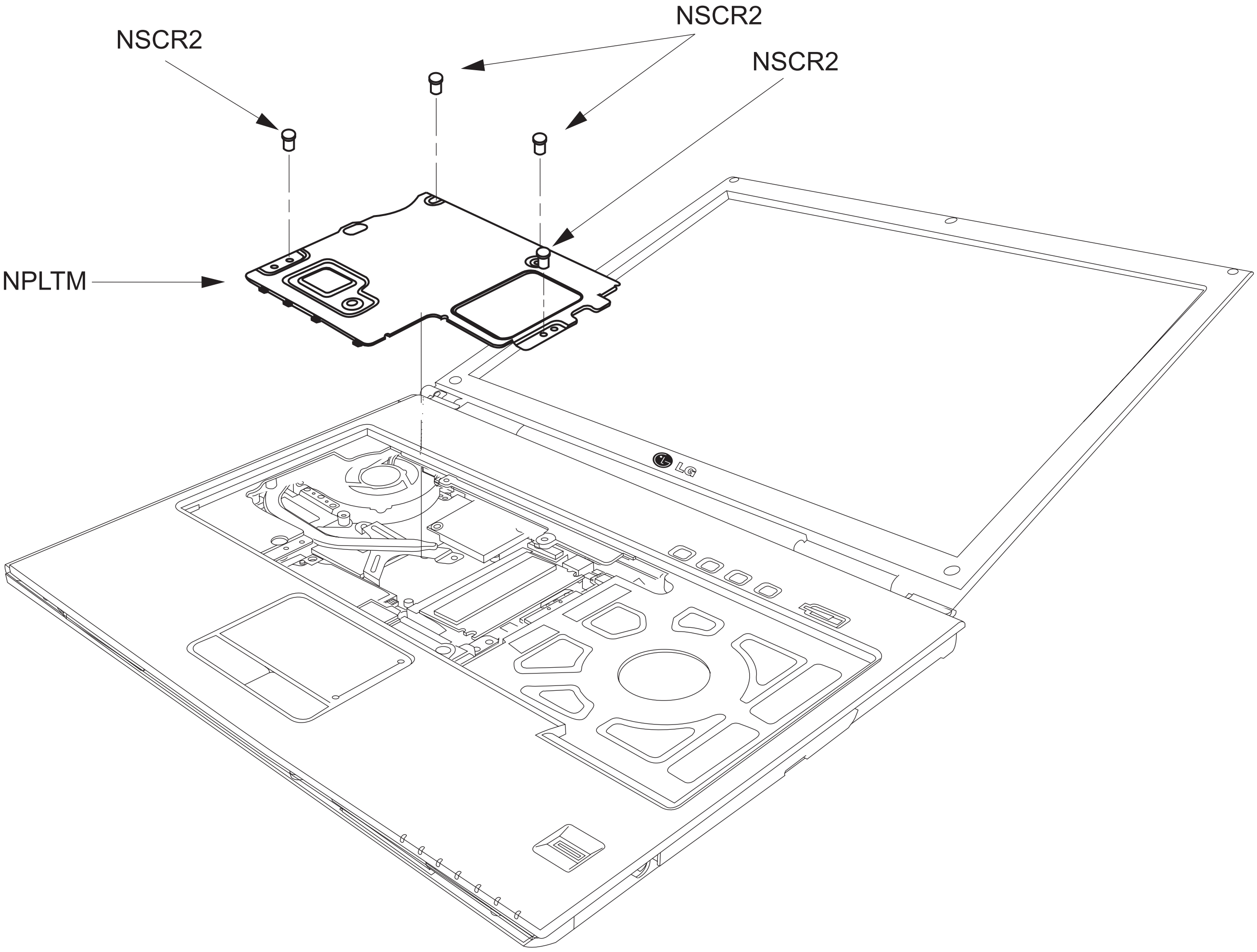
Locatin	LG P/N	SPECIFICATION	REMARK
NBATM	6911B00143A	5200MAH 3S-2P SIMPLO LI-ION CYLINDERICAL ROCKY-15WP /14WT LGC CELL BLACK	
NBATM	6911B00137A	5200MAH 3S-2P LGC LI-ION CYLINDERICAL ROCKY-15WP /14WT LGC CELL BLACK	
NBATM	6911B00143B	5200MAH 3S-2P SIMPLO LI-ION CYLINDERICAL ROCKY-15WP /14WT SANYO BLACK	



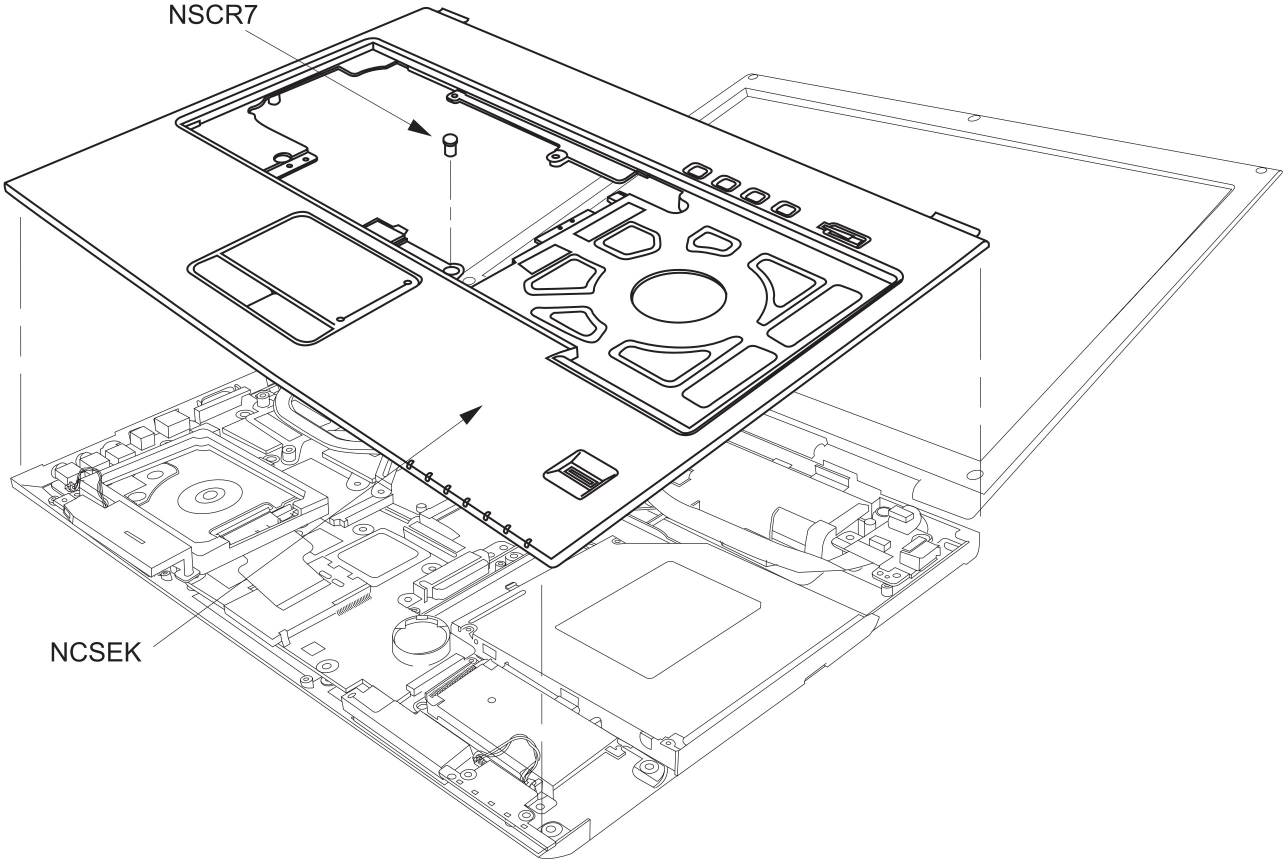
Locatin	LG P/N	SPECIFICATION	REMARK
NSCR9	1SZZBA4063G	+ D4.5 L6.0MM SWRH4 / [BK] ROCKY 14WT BOTTOM BK ROCKY 142T M2 ROUND	
NSCRG	1SZZBA4097A	+ D4.5 L6.5MM SWRH4 M2.5 H1.0 BK HUNTER TIP NO.0	
NSCRG	1SZZBA4097B	+ D4.5 L6.5MM SWRH4 M2.5 H1.0 BK HUNTER TIP NO.0 ROHS	


NKBD1
LG

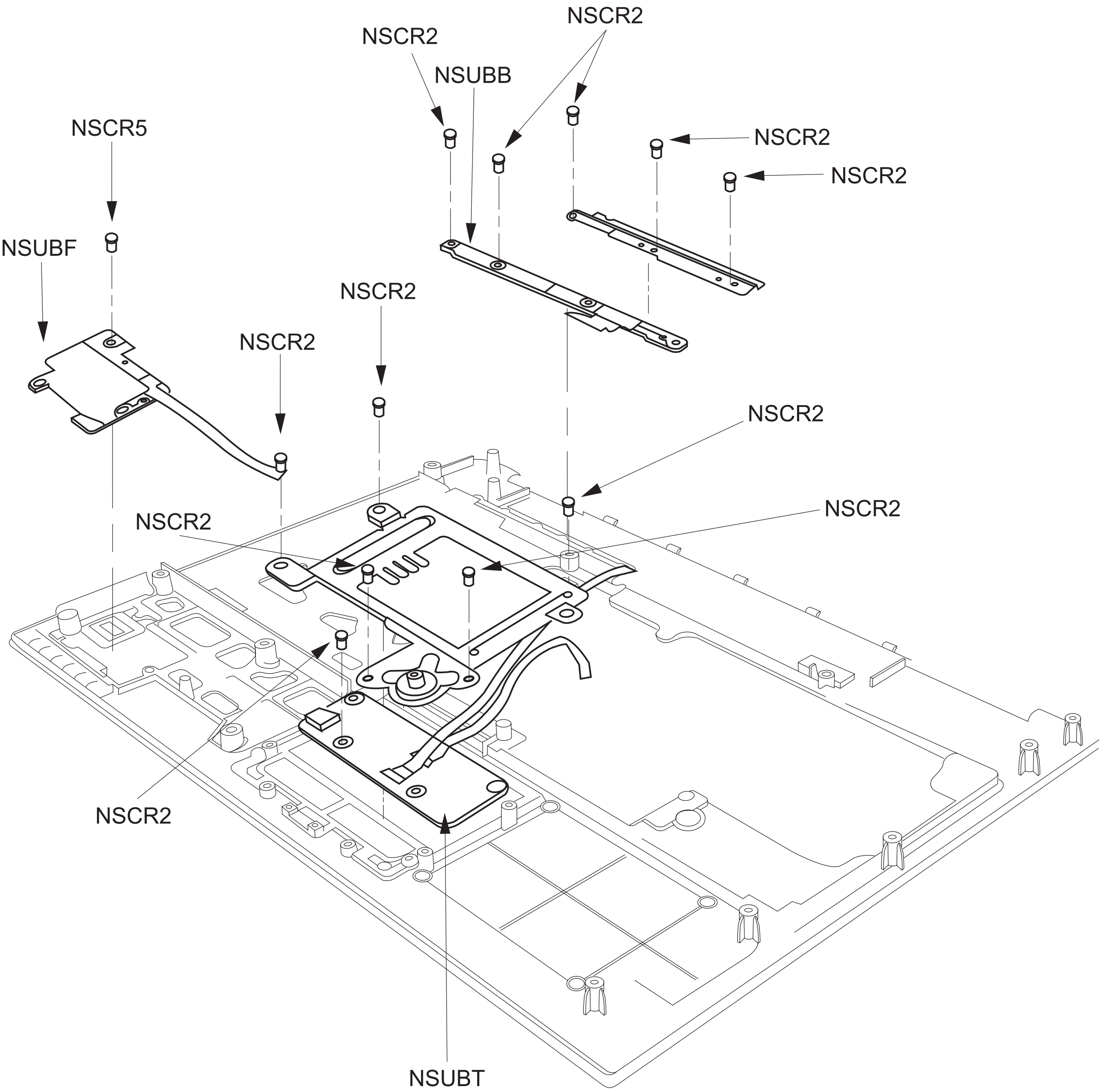
Locatin	LG P/N	SPECIFICATION	REMARK
NKBD1	3823B00330A	KOREA ROCKY 14T OKI	
NKBD1	3823B00331A	ENGLISH ROCKY14T OKI	
NKBD1	3823B00332A	US INTER ROCKY 14T OKI	
NKBD1	3823B00333A	RUSSIAN ROCKY 14T OKI	
NKBD1	3823B00334A	TAIWAN ROCKY 14T OKI	
NKBD1	3823B00335A	ARABIC ROCKY 14T OKI	
NKBD1	3823B00336A	SPANISH ROCKY 14T OKI	
NKBD1	3823B00337A	HEBREW ROCKY 14T OKI	
NKBD1	3823B00338A	FRENCH ROCKY 14T OKI	
NKBD1	3823B00339A	PORTUGESE ROCKY 14T OKI	
NKBD1	3823B00340A	NORWAY ROCKY 14T OKI	
NKBD1	3823B00341A	SWEDEN/FINLAND ROCKY 14T OKI	
NKBD1	3823B00342A	DENMARK ROCKY 14T OKI	
NKBD1	3823B00343A	CANADIAN FRENCH ROCKY 14T OKI	
NKBD1	3823B00344A	TURKEY ROCKY 14T OKI	
NKBD1	3823B00345A	ITALY ROCKY 14T OKI	
NKBD1	3823B00346A	HUNGARY ROCKY 14T OKI	
NKBD1	3823B00347A	GERMAN ROCKY 14T OKI	
NKBD1	3823B00348A	BRAZIL ROCKY 14T OKI	



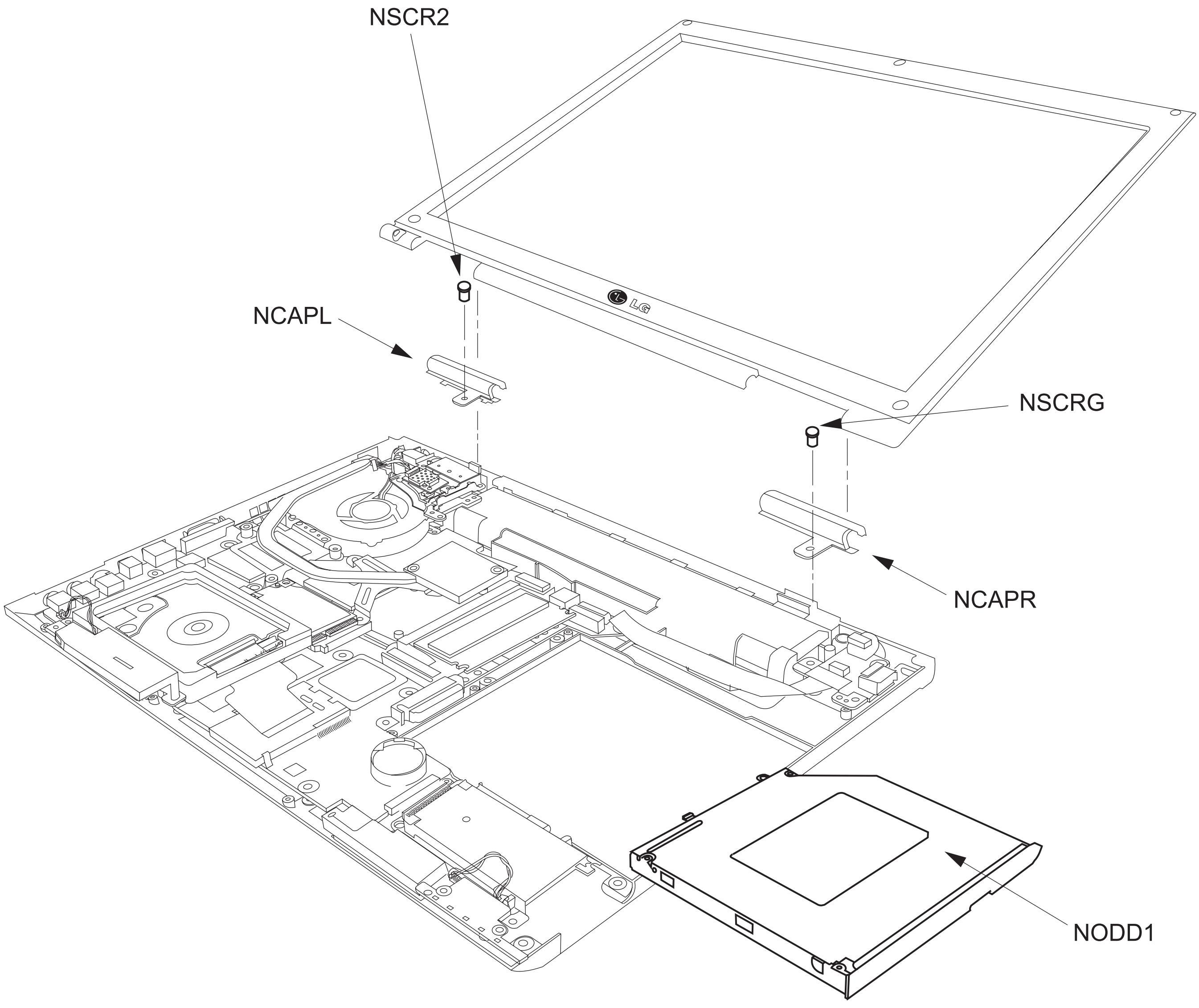
Locatin	LG P/N	SPECIFICATION	REMARK
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NPLTM	3301B30005A	PLATE MEMORY COVER ASSY ROCKY 14WT .	



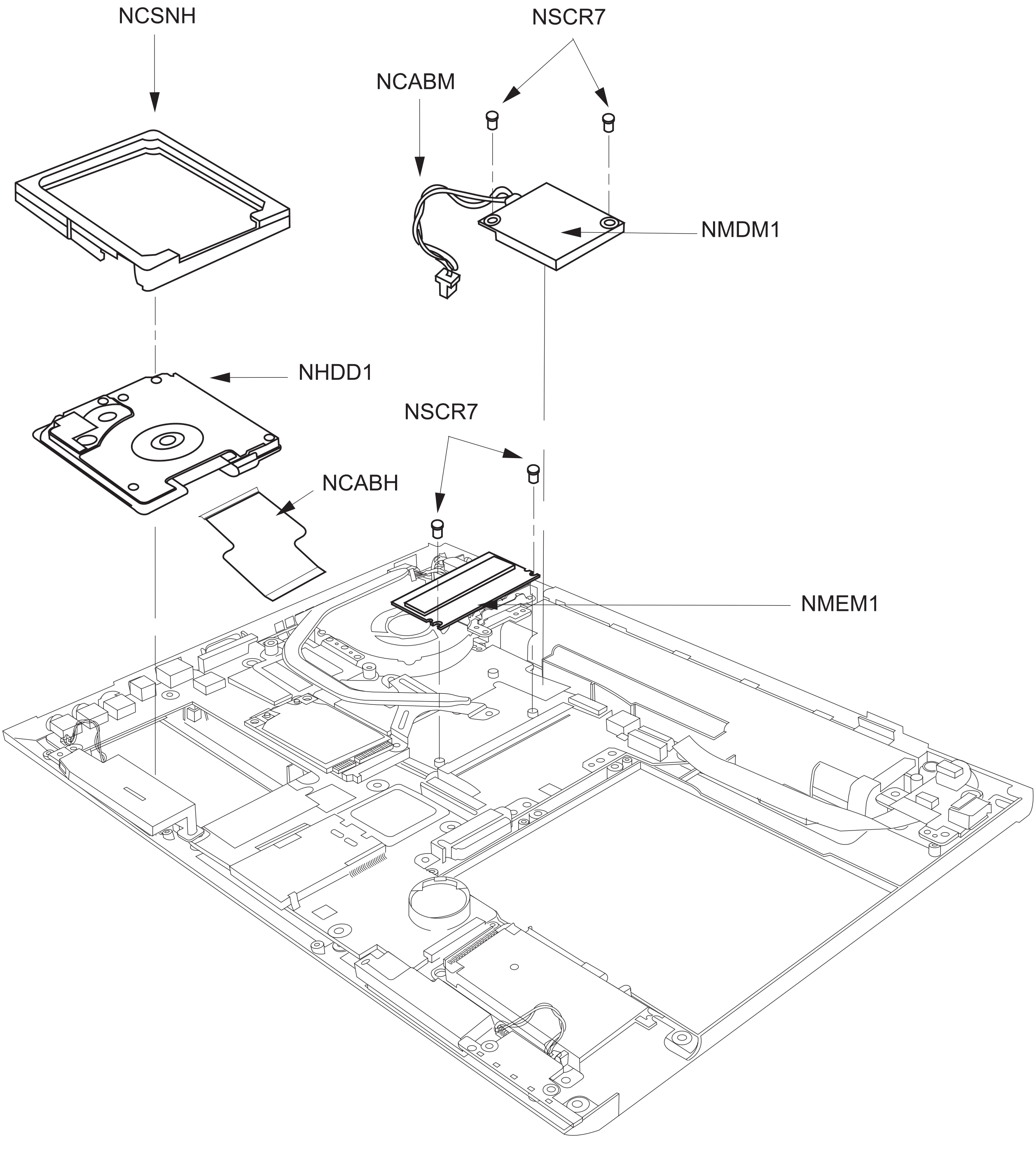
Locatin	LG P/N	SPECIFICATION	REMARK
NSCR7	1SZZBA4023A	+ D2.0 L 3.5 SWRH4 SYDNEY SYSTEM SILVER S3-PJT PLATED NICKEL	
NCSEK	3111B0TT40A	ROCKY-14WT KBD DECK ASSY	
NCSEK	3111B0TT40B	ROCKY-14WT KBD DECK ASSY W/O FINGER BOARD	


NSCR2
NSCR2
NSUBB
NSCR5
NSCR2
NSCR2
NSUBF
NSCR2
NSCR2
NSCR2
NSCR2
NSCR2
NSCR2
NSCR2
NSUBT

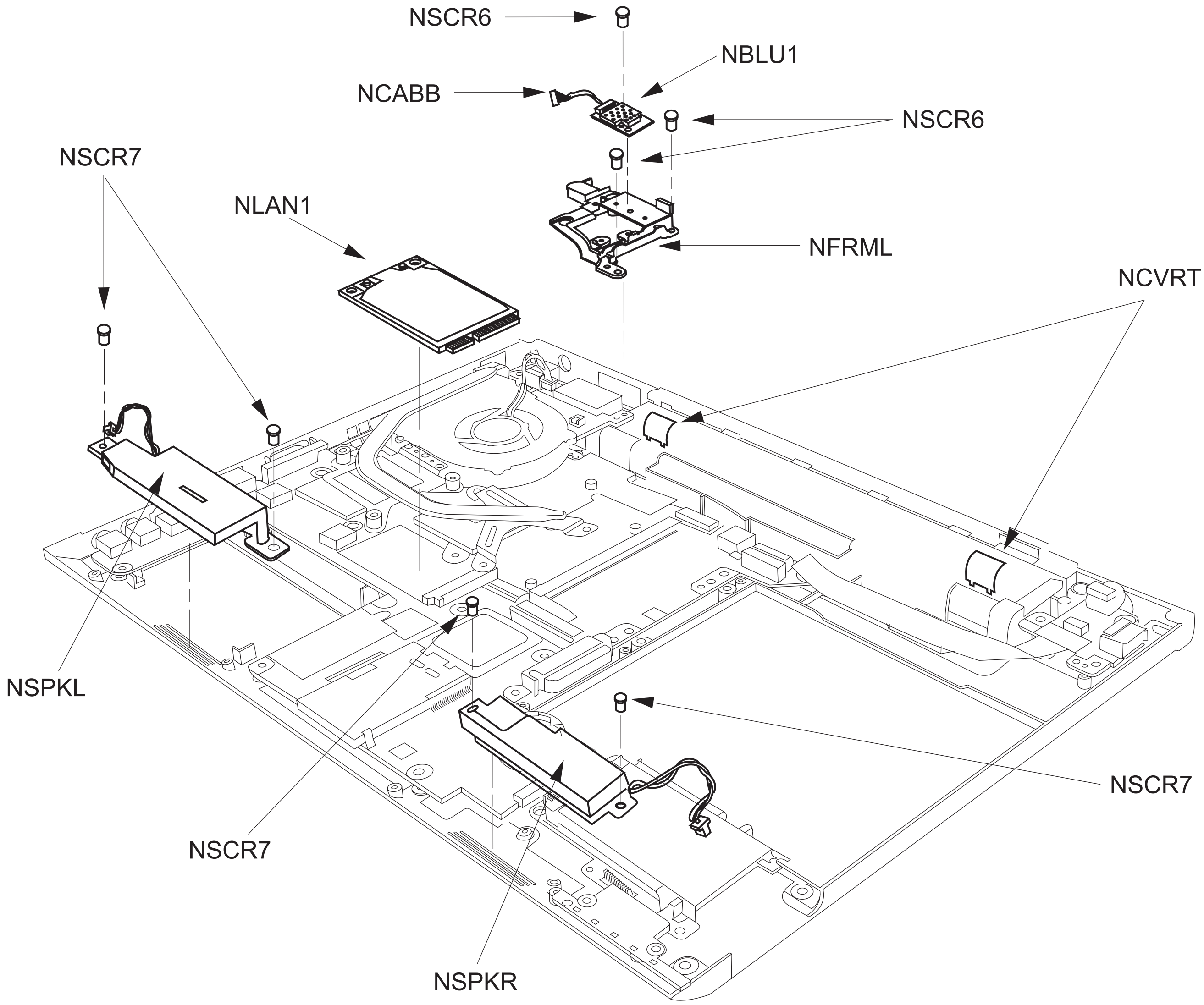
Locatin	LG P/N	SPECIFICATION	REMARK
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR5	1SZZBA4041E	+ D5.5 L2.0MM SWRH4 FINGER PRINT FIX SILVER ROCKY 14WT #0 TIP	
NSUBB	6871BRSW1Z1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT SWITCH SUB B/D ASSY	
NSUBF	6871BRFP1Z1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT FIN-GERPRINT SUB B/D ASSY	
NSUBF	6871BRFP1A1	ROCKY T WIMTEC 2 LAYERS REV 1.0 ROCKY WT FIN-GERPRINT SUB B/D ASSY	
NSUBT	6871BRTP1Z1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT TOUCH-PAD SUB B/D ASSY	


NSCR2
NCAPL
NSCRG
NCAPR
NODD1

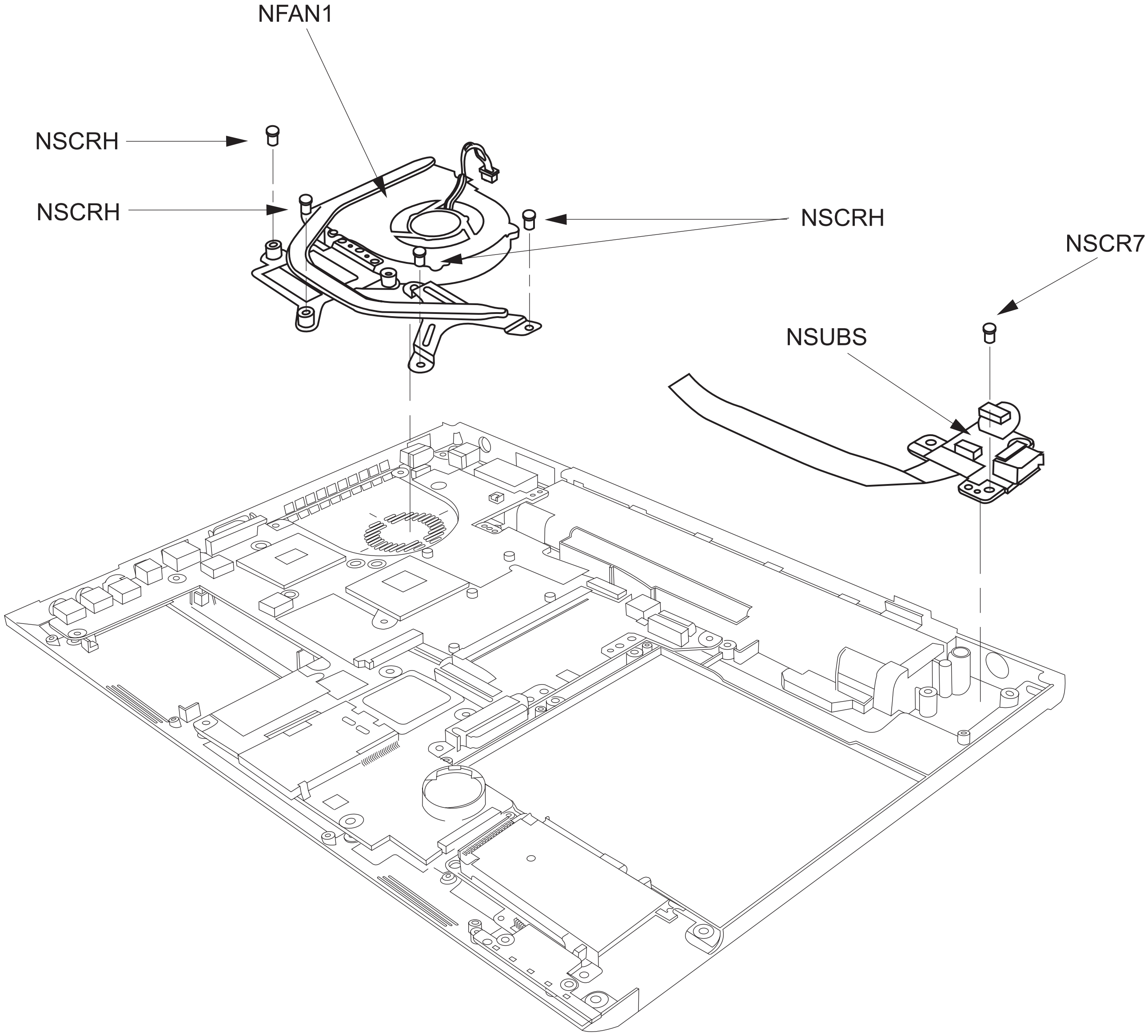
Locatin	LG P/N	SPECIFICATION	REMARK
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NCAPL	3550BM3244A	ROCKY-14WT PCABS HINGE LEFT COVER	
NCAPR	3550BM3245A	ROCKY-14WT PCABS HINGE COVER RIGHT	
NSCRG	1SZZBA4097A	+ D4.5 L6.5MM SWRH4 M2.5 H1.0 BK HUNTER TIP NO.0	
NSCRG	1SZZBA4097B	+ D4.5 L6.5MM SWRH4 M2.5 H1.0 BK HUNTER TIP NO.0 ROHS	
NODD1	2026B40100A	GSA-4083N HLDS 8X 8X 24X 24X 10X 2X 2X 2.4X 2.4X 2X 24X NOTE BOOK SUPERMULTI FOR ROCKY 14WT	
NODD1	2029B40100A	GCC-4246N HLDS 8X 16X 8X 24X 9.5MM	


NCSNH
NSCR7
NCABM
NMDM1
NHDD1
NSCR7
NCABH
NMEM1

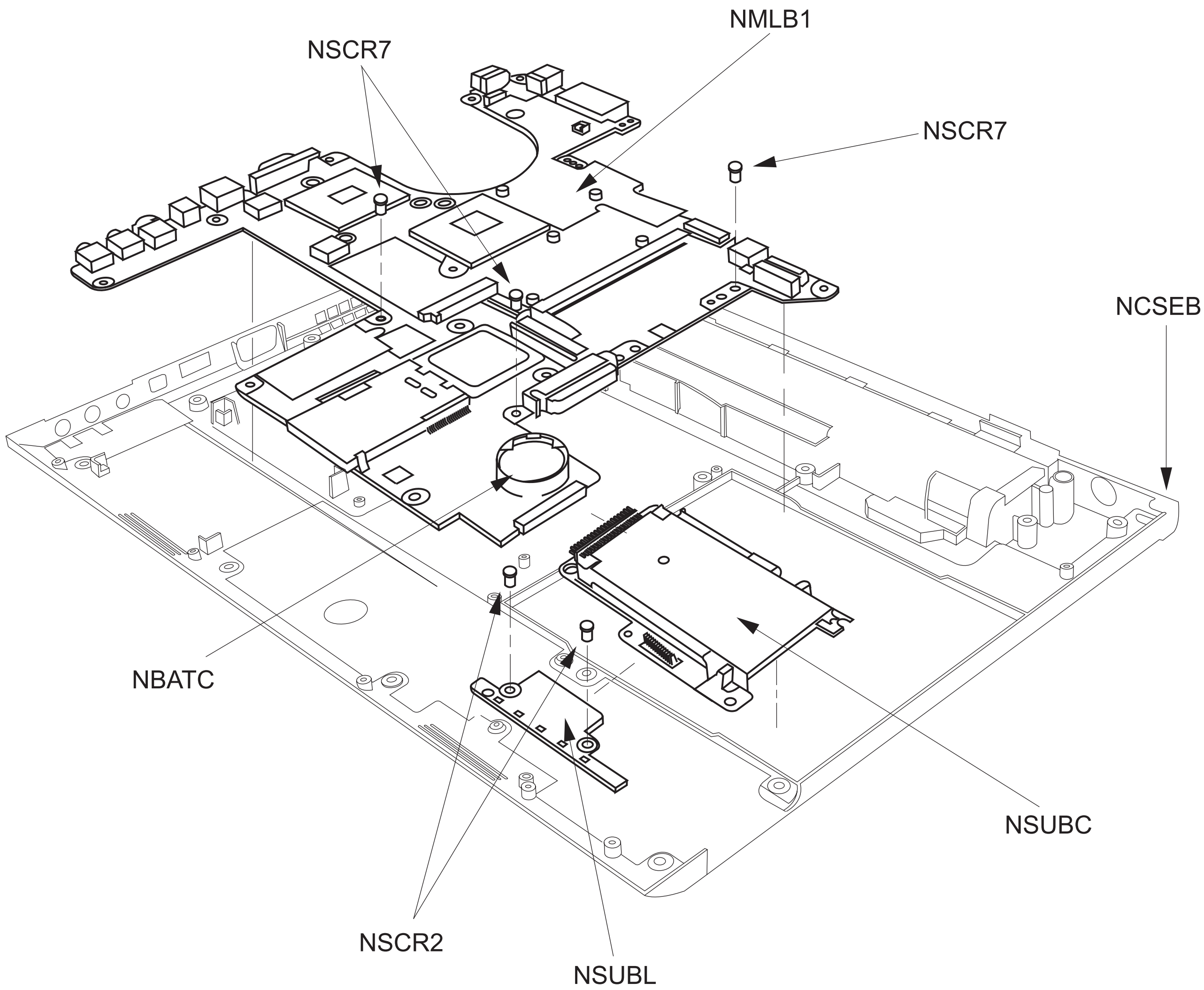
Locatin	LG P/N	SPECIFICATION	REMARK
NSCR7	1SZZBA4023A	+ D2.0 L 3.5 SWRH4 SYDNEY SYSTEM SILVER S3-PJT PLATED NICKEL	
NMDM1	6871BG869AB	MA560-3 LF(LEAD FREE) QCOM 2 LAYERS 1A CHIP REV. G MDC1.5 FORM FACTOR V.92 MODEM CARD	
NCSNH	4850BP4089A	EVEREST CR HDD RUBBER-HITACHI	
NHDD1	6744A00012A	HTS426060G8CE00 HGST 60GB EIDE INNER NT	
NHDD1	6744A00008A	MK6008GAH TOSHIBA 60GB EIDE INNER NT	
NHDD1	6744A00007A	MK4008GAH TOSHIBA 40GB EIDE INNER NT	
NHDD1	6744A00011A	HTS426040G8CE00 HGST 40GB EIDE INNER NT	
NCABH	6870BRHF1Z2	ROCKY-14WT 65*35 0.6MM 2LAYERS REV 0.2 YOUNG PUNG HDD FPC FOR TOSHIBA	
NCABH	6870BRHD1Z1	ROCKY-14WT 65*35 0.8MM 2LAYERS REV 0.1 YOUNG PUNG HDD FPC FOR HITACHI	
NMEM1	0IMMR00186A	HYS64T64020HM-3S-A INFINEON 214P MICRO-DIMM BULK 512MB 64MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00185A	HYS64T32000HM-3S-A INFINEON 214P MICRO-DIMM BULK 256MB 32MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00183A	HYS64T32000HM-3.7-A INFINEON 214PIN MICRO SODIMM 256MB 32MX64 533MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00184A	HYS64T64020HM-3.7-A INFINEON 214PIN MICRO SODIMM 512MB 64MX64 533MHZ DDR2 SDRAM WITH 64MX16	
NMEM1	0IMMR00176A	HYS64T32000HDL-3S-B INFINEON 200P SODIMM BULK 256MB 32MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00177A	M470T3354CZ3-CE6 SAMSUNG ELECTRONICS 200P SO-DIMM BULK 256MB 32MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NMEM1	0IMMR00175A	HYS64T64020HDL-3S-B INFINEON 200P SODIMM BULK 512MB 64MX64 667MHZ DDR2 SDRAM WITH 32MX16 UOM EA	
NMEM1	0IMMR00178A	M470T6554CZ3-CE6 SAMSUNG ELECTRONICS 200P SO-DIMM BULK 512MB 64MX64 667MHZ DDR2 SDRAM WITH 32MX16	
NCABM	6851B34040A	CABLE ASSEMBLY / MODEM CABLE 70 2 WINDRIVER, MDC CABLE	



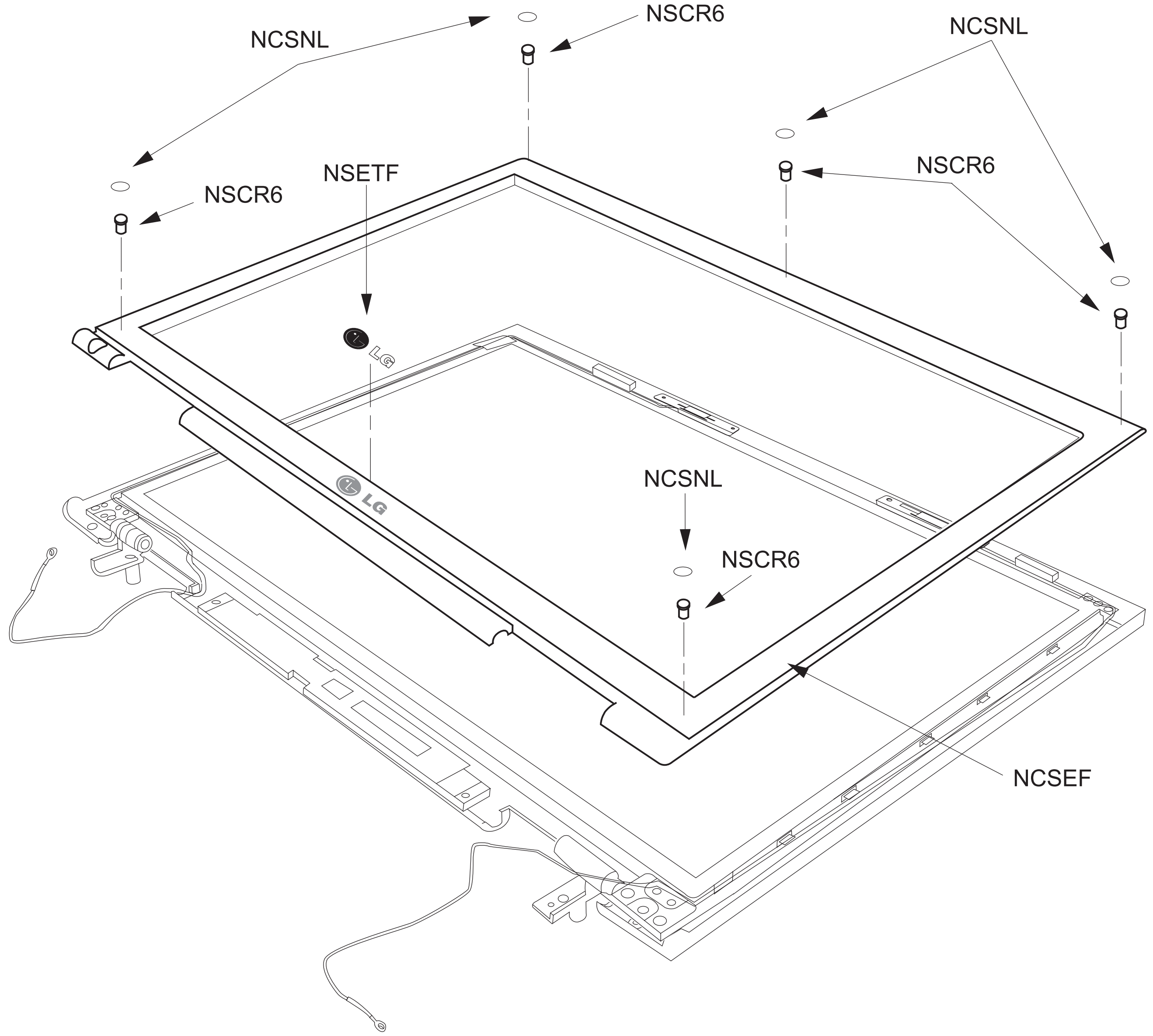
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NSCR6	1SZZBA4019L	+ D3.8 L4.5MM SWRH4 PCB ETC.. FIX YL HUNTER WIDE M2 ROHS	
NBLU1	6871B0T62AC	QBTM300 QCOM 4 LAYERS VER.2A2 BLUETOOTH2.0 EDR USB MODULE+IVT S/W	
NCABB	6851B09280A	BLUETOOTH CABLE AY 40L 8WIRE ROCKY 14T	
NFRML	3210BD3030A	ROCKY-14WT MG HINGE FRAME LEFT	
NLAN1	6718M000033	WM3945AGRWGEN INTEL IEEE 802.11ABG STANDARD PROTOCOL 54M REV2.03 PCIE MINICARD FORM FACTOR	
NSCR7	1SZZBA4023A	+ D2.0 L 3.5 SWRH4 SYDNEY SYSTEM SILVER S3-PJT PLATED NICKEL	
NSPKL	3551B09771A	ROCKY-14WT SPEAKER LEFT	
NSPKR	3551B09772A	ROCKY-14WT SPEAKER RIGHT	
NCVRT	3550BM3248A	ROCKY-14WT PCABS BATTERY COVER	



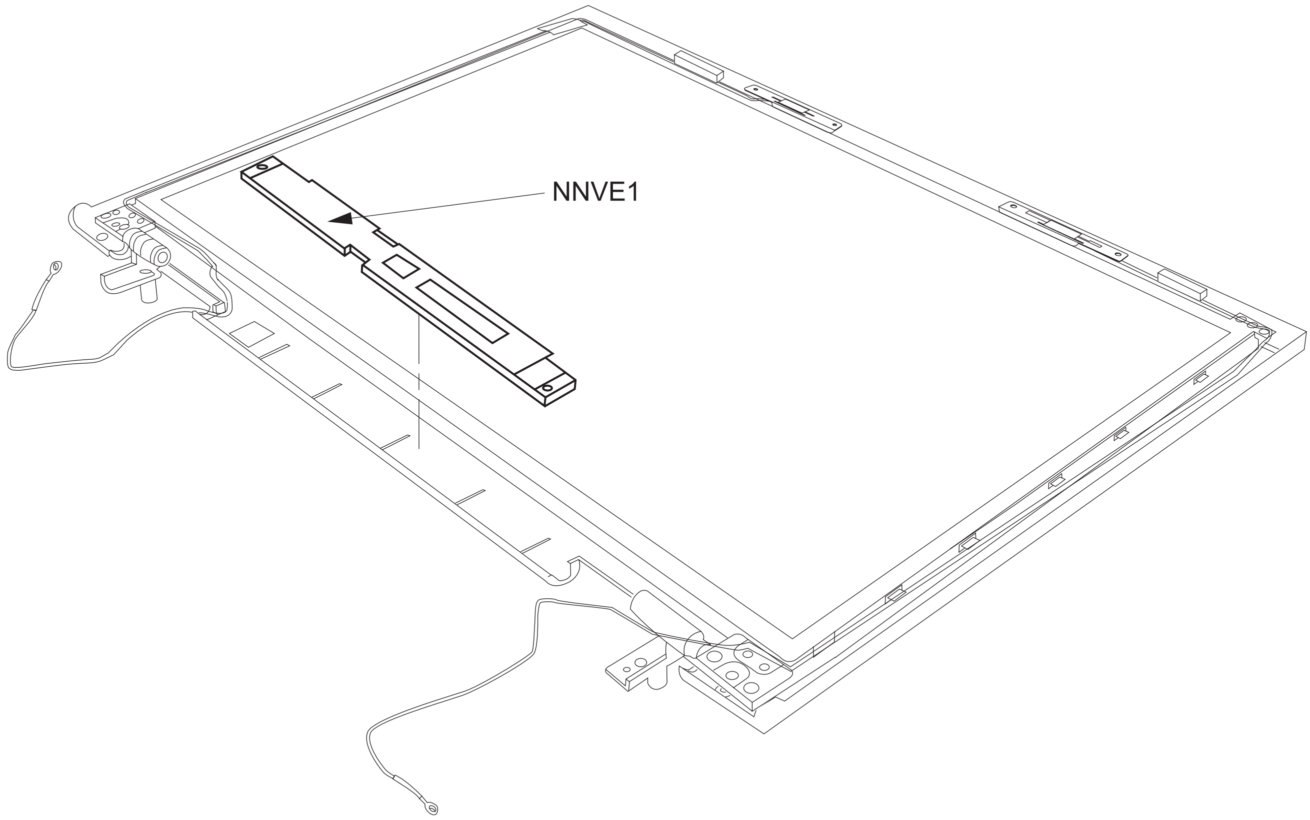
Locatin	LG P/N	SPECIFICATION	REMARK
NFAN1	5901B09300A	FAN ASSY ROCKY 14WT THERMAL	
NSCRH	1SZZBZ4020C	+ D4.0 L8.8MM SWRH4 FAN ASSEMBLY SILVER ROCKY 14WT L(8.0) WITH HEAD LENGTH TIP#0	
NSUBS	6871BRSV1Z2	ROCKY T WIMTEC 2 LAYERS REV 0.2 ROCKY WT S-VID-EO SUB B/D ASSY	
NSCR7	1SZZBA4023A	+ D2.0 L 3.5 SWRH4 SYDNEY SYSTEM SILVER S3-PJT PLATED NICKEL	


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NSCR7
NSCR7
NCSEB
NBATC
NSUBC
NSCR2
NSUBL

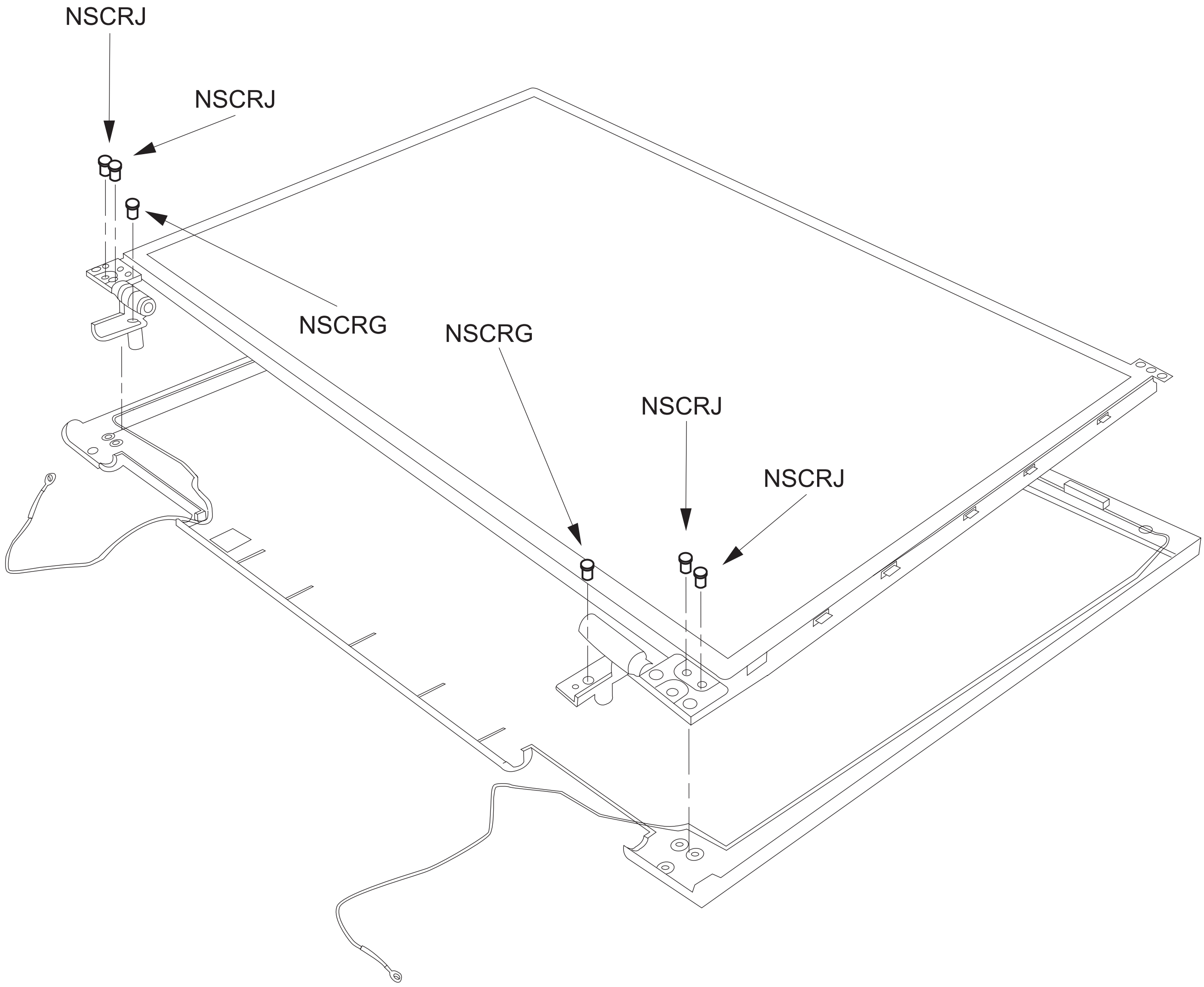
Locatin	LG P/N	SPECIFICATION	REMARK
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR7	1SZZBA4023A	+ D2.0 L 3.5 SWRH4 SYDNEY SYSTEM SILVER S3-PJT PLATED NICKEL	
NMLB1	6871BR44AP1	.... LGE 8 LAYERS REV 0.1 ROCKY 14WT MAIN B/D ASYS	
NMLB1	6871BR41AP1	. LGE 8 LAYERS REV 0.1 ROCKY 14WT MAIN B/D ASSY	
NMLB1	6871BR43AP1	... LGE 8 LAYERS REV 0.1 ROCKY 14WT MAIN B/D ASSY	
NMLB1	6871BR42AP1	.. LGE 8 LAYERS REV 0.1 ROCKY 14WT MAIN B/D ASSY	
NMLB1	6871BR42AA1	. LGE 8 LAYERS REV 1.0 ROCKY 14WT MAIN B/D ASSY 1.66G GBIT NO TPM	
NMLB1	6871BR43AA1	. LGE 8 LAYERS REV 1.0 ROCKY 14WT MAIN B/D ASSY 1.5G 10/100 TPM	
NMLB1	6871BR44AA1	. LGE 8 LAYERS REV 1.0 ROCKY 14WT MAIN B/D ASSY 1.66G GBIT TPM	
NMLB1	6871BR41AA1	. LGE 8 LAYERS REV 1.0 ROCKY 14WT MAIN B/D ASSY 1.5G 10/100 NO TPM	
NBATC	6910BLC3201	CR2032 SONY 3V 220MA/H COIN	
NCSEB	3111B0TT41A	ROCKY-14WT BOTTOM ASSY	
NSUBC	6871BREX1A1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT EX-PRESS CARD SUB B/D ASSY	
NSUBL	6871BRLE1Z1	ROCKY T WIMTEC 2 LAYERS REV 0.1 ROCKY WT LED SUB B/D ASSY	
NSUBL	6871BRLE1A1	ROCKY T WIMTEC 2 LAYERS REV 1.0 ROCKY WT LED SUB B/D ASSY	



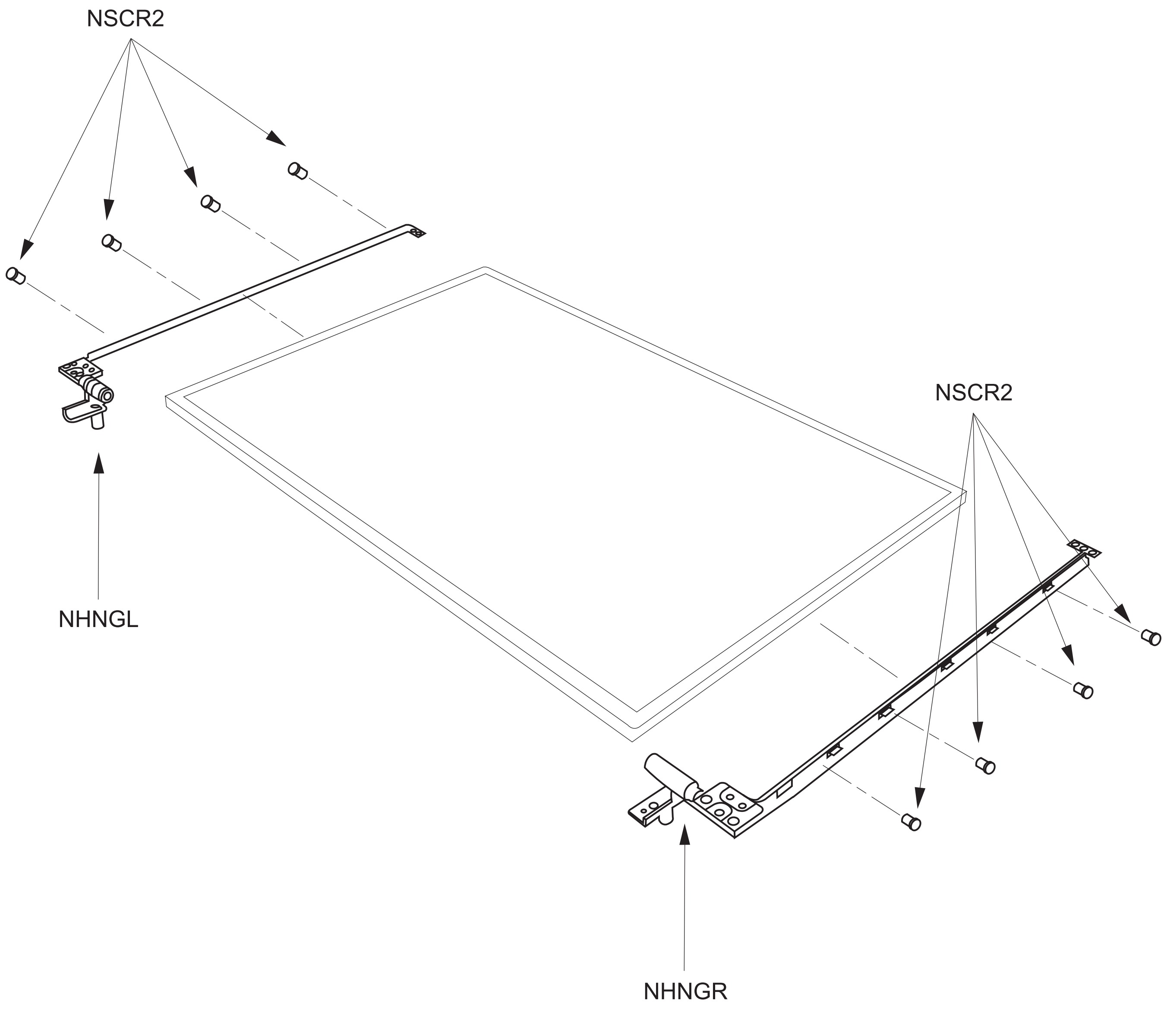
Locatin	LG P/N	SPECIFICATION	REMARK
NSCR6	1SZZBA4019L	+ D3.8 L4.5MM SWRH4 PCB ETC.. FIX YL HUNTER WIDE M2 ROHS	
NCSNL	4850BM4041A	ROCKY-14WT SILICON DISPLAY FRONT LOWER	
NSETF	3858BP4548B	. ROCKY-15W BADGE LOGO, LG DISPLAY FRONT BLACK	
NCSEF	3111B0TT32A	ROCKY-14WT DISPLAY FRONT ASSY	



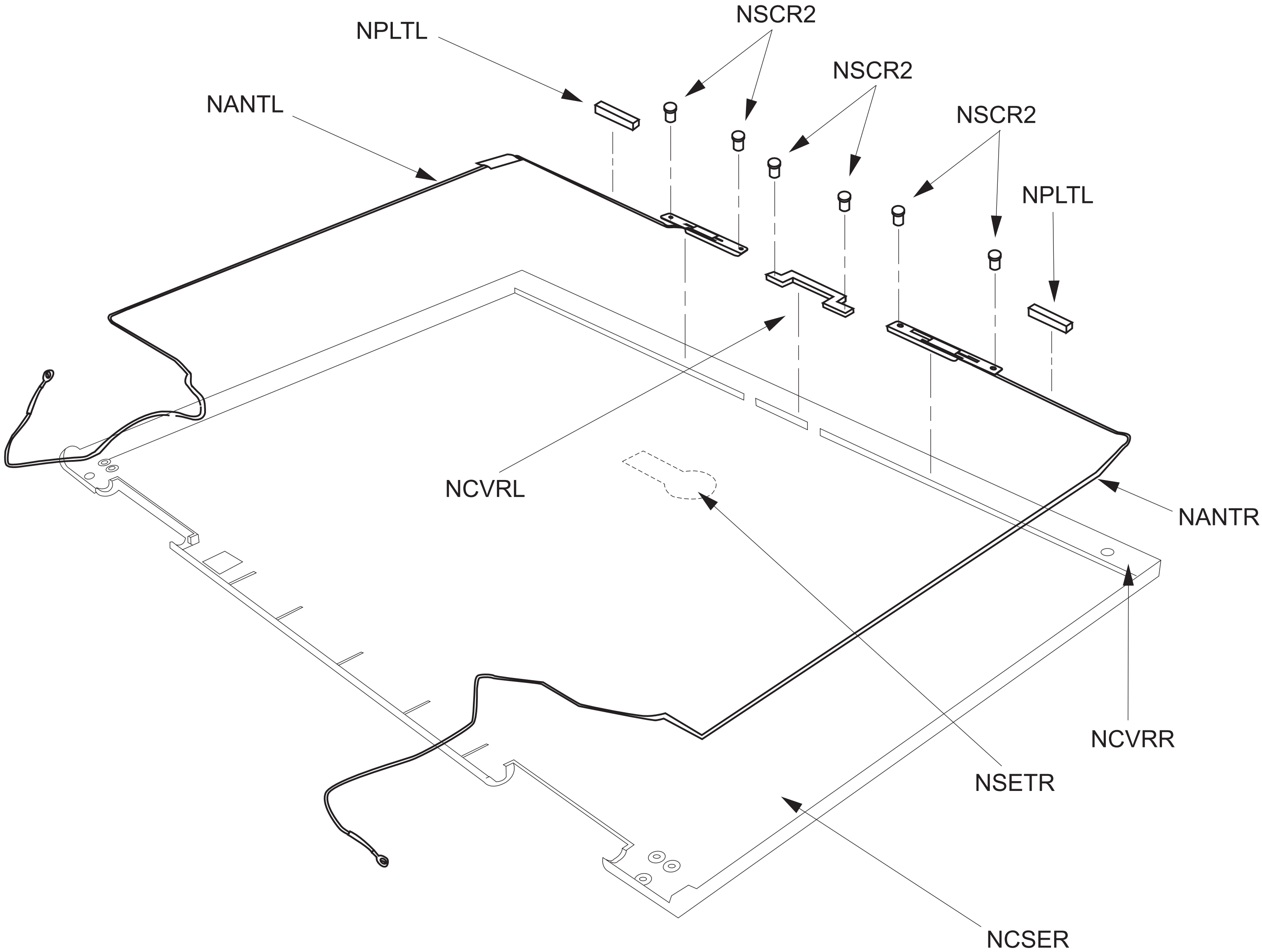
Locatin	LG P/N	SPECIFICATION	REMARK
NNVE1	6708BI0098A	KUBNKM116A ALPS GENERAL SXGA+ LGP ROCKY-15F ,14WT,15W	
NNVE1	6708BI0098C	KUBNKM116A ALPS GENERAL SXGA+ LGP ROCKY-14WT 14WT	



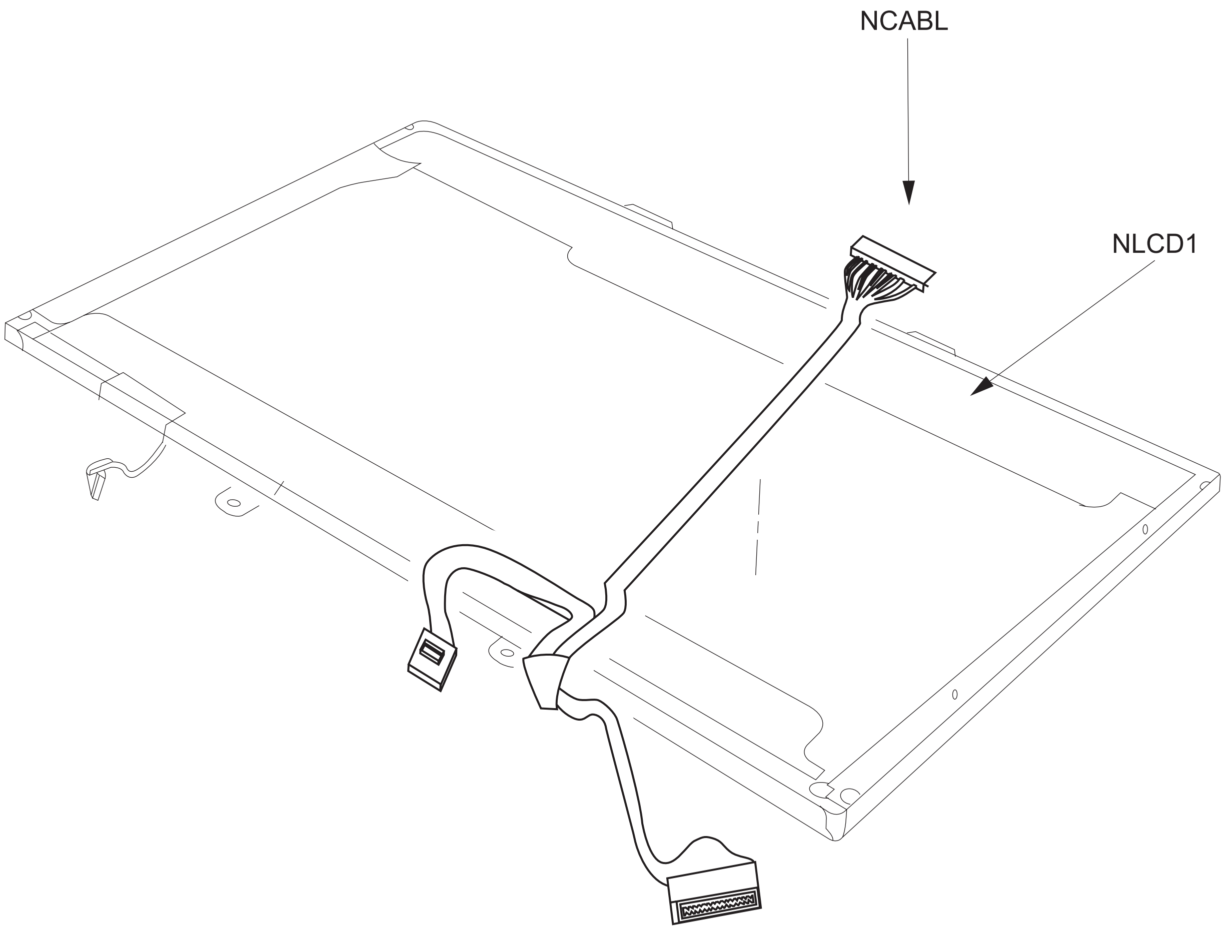
Locatin	LG P/N	SPECIFICATION	REMARK
NSCRG	1SZZBA4097A	+ D4.5 L6.5MM SWRH4 M2.5 H1.0 BK HUNTER TIP NO.0	
NSCRG	1SZZBA4097B	+ D4.5 L6.5MM SWRH4 M2.5 H1.0 BK HUNTER TIP NO.0 ROHS	
NSCRJ	1SZZBZ3002K	+ D4.5 L3.5MM SWRH4 . BK HUNTER ROHS	



Locatin	LG P/N	SPECIFICATION	REMARK
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MA-GELLAN DISPLAY	
NHNGL	4774BD2009A	ROCKY-14WT MG 7.0KGF-CM HINGE LEFT	
NHNGR	4774BD2010A	ROCKY-14WT MG 7.0KGF-CM HINGE RIGHT	


NSCR2
NPLTL
NSCR2
NANTL
NSCR2
NPLTL
NCVRL
NANTR
NCVRR
NSETR
NCSER

Locatin	LG P/N	SPECIFICATION	REMARK
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	
NANTL	5011B00045A	. HITACHI WIRELESS BT COMBO ROCKY14WT	
NANTR	5011B00046A	, HITACHI WIRELESS ANTENA AUX ROCKY14WT	
NANTR	5011B00050A	MAIN ANTENA HITACHI WIRELESS MAIN ROCKY 14WT	
NPLTL	3301B00570B	DISPALY ROCKY 14WT MAGNETIC ASSY WITH TAPE	
NCVRL	3650BD4001A	ROCKY-14WT OTHER DISPLAY HANDLE MG	
NCVRR	3551B09779A	ROCKY-14WT DISPLAY REAR ANTENA DECO ASSY	
NSETR	3858BP4546B	N ROCKY-15F LOGO BADGE XNOTE BLACK	
NCSER	3110BD0025A	ROCKY-14WT MG DISPLAY REAR XNOTE	
NCSER	3110BD0026A	ROCKY-14WT MG DISPLAY REAR LG LOGO	



Locatin	LG P/N	SPECIFICATION	REMARK
NCABL	6851B09285A	14.1W SXGA LCD CABLE AY 171*167 41 ROCKY 14T	
NCABL	6851B09284A	14.1W XGA LCD CABLE AY 171*167 31 ROCKY 14T	
NLCD1	6304FLP340B	LP141WX1-TL03 LG PHILIPS TFT COLOR 14.1INCH WXGA(1280X800) 200NITS ANTI-GLARE	
NLCD1	6304FLP346A	LP141WP1-TLB3 LG PHILPS TFT COLOR 14.1 INCH(1440X900) 220NITS GLARE	
NLCD1	6304FBH014A	HT141WX1-101 BOE-HYDIS TFT COLOR 14.1 INCH WXGA(1280X800) 185NITS GLARE	
NLCD1	6304FLP340A	LP141WX1-TL02 LG PHILIPS TFT COLOR 14.1 INCH WXGA(1280X800) 200NITS GLARE	